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THE JOURNAL

OF THE

American Medical Association

Annual Subscription, $5.00 | PUBLISHED WEEKLY | Single Copies, 15 Cents

VOLUME 72, No. 24 | 535 North Dearborn Street, CHICAGO, ILL. | JUNE 14, 1919

CONTENTS AND DIGEST

Medicine, a Determining Factor in War: Presidential Address. Alexander Lambert, M.D., New York 1713

Response of medical profession to call of duty. Work of the local boards. Success of preventive medicine. Destructive effects of disease in former wars. Modern control of destructive diseases. Value of lessons learned in determining action in future. Relation of Red Cross to Army.

Intestinal Parasites in Overseas and Home Service Troops of the U. S. Army, with Especial Reference to Carriers of Amebiasis. Charles A. Kofoid, Sc.D.; Sidney I. Kornhauser, Ph.D., and J. T. Plate, A.B., New York 1721

Examinations for intestinal parasites. Nationalities of patients. Number of examinations per individual. Extent of infection. Contrast of infection of home and overseas troops. Species of parasites found. Number of parasites discharged by carriers. The carrier problem.

The Local Use of Antianthrax Serum in Treatment of Anthrax. Joseph C. Regan, M.D., Brooklyn.....1724

Local treatment of anthrax and its objectionable features. Use of antianthrax serum. Report of case. Conclusions.

Some Clinical Observations on the Influenza Epidemic at Camp Upton from Sept. 13 to Dec. 1, 1918. Irving P. Lyon, M.D.; Charles F. Tenney, M.D., and Leopold Szerlip, M.D., Camp Upton, Yaphank, L. I., N. Y. 1726

Origin and nature of epidemic. Statistical tables and charts. Mode of treatment. Need of early diagnosis of pneumonia. Summary.

Hypophysial Dystrophy in Hydrocephalus. August Strauch, M.D., Chicago 1731

Conditions interfering with hypophysial function. Secondary changes probably occurring. Report of case of hypophysial dystrophy with hydrocephalus. Comment.

The Surgical Treatment of Rhinophima. Joseph E. Fuld, M.D., New York 1734

Definition of rhinophima. Pathologic changes. Treatment. Operative procedure.

Sterility of Catgut. T. Butterfield and Leo F. Ely.....1736

Method used by authors in tests. Preparation of medium. Determination of critical pressure. Effect of preliminary washing. Conclusions.

(Continued on next page)

PROCEEDINGS OF THE ATLANTIC CITY SESSION

Minutes of the House of Delegates..1738

Addresses of Drs. Hubert Work, Speaker; Arthur Dean Bevan, President, and Alexander Lambert, President-Elect.

MEDICAL MOBILIZATION AND THE WAR 1773

Medical Officers, U. S. Navy, Relieved from Active Duty.
Honorable Discharges, Medical Corps, U. S. Army.
Orders to Officers of the Medical Corps, U. S. Army.

Entered as Second-Class Matter, June 25, 1885, at the Postoffice at Chicago, Illinois, under Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized on June 14, 1918.
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SAUNDERS, *Publishers* See Pages 3, 4, 5

CONTENTS AND DIGEST—Concluded

CLINICAL NOTES, SUGGESTIONS AND NEW INSTRUMENTS

The Use of Iodids in Pyelography. D. F. Cameron, M.D., Minneapolis 1737

EDITORIALS

Mosquitoes and Culicifuges.....1770
Effectiveness of certain palliative measures.

Mitochondria 1770
Characteristics and significance of these cytoplasmic granules.

Graduate Medical Instruction in the United States.....1771
Steps that should be taken to abolish our shortcomings.

Glycuresis Versus Glycosuria.....1772
The need of a more accurate terminology.

CURRENT COMMENT

The Victory Meeting.....1772
The great interest displayed in the Atlantic City Session.

The Proteins of Ragweed Pollen...1772
The potent factor in the causation of hayfever.

Toxic Manifestations of Arsphenamin 1773
Use of tyramin to combat symptoms of collapse.

MEDICAL NEWS

CALIFORNIA: Personal — Anesthetists Organize 1776

ILLINOIS: Hospital News—Personal. Chicago: Illegal Practitioner Arrested—Rush Alumni Elect Officers — Establishment of John M. Dodson Lecture — Hospital News.....1776

INDIANA: Antituberculosis Association Organized—Personal—Venereal Clinics 1777

IOWA: Personal 1777

KENTUCKY: State Health Board Moves to Louisville — Sanatorium at Dawson Springs —Personal 1777

MARYLAND: Correction—Personal 1777

MASSACHUSETTS: Harvard Alumni Meeting — Personal—State Society Elects Officers.1777

MICHIGAN: Nurses Memorial Home — Health Officers Organize 1777

MISSOURI: Personal—State Association Meeting 1777

NEBRASKA: Personal—Medical School Now Registered — Physicians' Building in Omaha 1778

NEW YORK: Personal. New York City: Columbia University — Alumni Elect Officers — Memorial Hospitals to Be Established — Personal — Plan to Make Brooklyn Medical Center — Columbia University Plans New System of Physical Education 1778

PENNSYLVANIA: Personal — Dixon Memorial. Philadelphia: Medical Society Reception — Babies' Hospital — Commencement at Jefferson — Personal 1778

SOUTH DAKOTA: New State Officers 1778

VERMONT: Board of Health in New Quarters —Personal 1778

WEST VIRGINIA: State Society Meeting...1779

WISCONSIN: Morphin Addict Robs Physician's Offices — New Hospitals 1779

CANADA: Personal—University News 1779

LATIN AMERICA: Deaths in the Profession—Inauguration of Radium Institute at Rio de Janeiro—Public Health Training in Brazil—Improved Public Health Service in Brazil—Brazilian Neurologists Elect Officers—Resignation of Centeno.....1779

GENERAL: National Board Examination — The Campaign Against Tuberculosis — Antivivisection Legislation Proposed — Bill to Reinstate Officers of Public Health Service —Amendment to Food and Drug Act Urged — Legislation Against Venereal Treatment Advertisements — Bequests and Donations —Annual Conference of Health Officers.1780

FOREIGN: Landouzy Memorial — Prize Offered by Spanish Gynecologic Association — Endowment of Motherhood — Neutral Doctors Study Nutrition in Germany — Deaths in the Profession Abroad — Royal Army Medical Corps War Memorial 1780

PARIS LETTER 1781

LONDON LETTER 1781

MEXICO LETTER 1782

RIO DE JANEIRO LETTER 1783

MARRIAGES 1783

DEATHS 1783

PROPAGANDA FOR REFORM 1784
Pulvoids Calcylates Compound.

CORRESPONDENCE 1785
Meningococcus Infection.
Phenol with Hydrogen Peroxid for Local Applications.
Administration of Arsphenamin.
Double Lumen in Fallopian Tube.
Opportunity for Medical Libraries to Get Duplicate Matter from Surgeon-General's Library.

QUERIES AND MINOR NOTES 1787
Chionacea.
Rigidity of Cervix (Rigid Os).
Physicians' Records Under Harrison Law.

MEDICAL EDUCATION AND STATE BOARDS OF REGISTRATION
Coming Examinations — Recognize Certificates of National Board — Wisconsin January Examination — Connecticut March Examination 1787

BOOK NOTICES 1788

MEDICOLEGAL
Duty of Employer Employing Physician for Employees — Physicians Not Liable for False Imprisonment 1789

SOCIETY PROCEEDINGS 1789
Coming Meetings.

CURRENT MEDICAL LITERATURE

American Medical Journals
Standardization of Wassermann Reaction — Syphilis in Senility—Alcoholic Argyll Robertson Pupils — Antigen in Complement Fixation Test — "Provocative" Wassermann Test 1790

Colloidal Gold Reaction — Treatment of Syphilis in Tuberculous Patients—Blood Sugar in Nephritis — Blood Sugar in Diabetes — Glucose Tolerance in Diabetes — Epidemic of Influenza at Camp Merritt.....1791

Leukocytes in Irritable Heart Cases — Effect of Fasting and Various Diets on Liver Injury — Cerebellar Gait — Lesion in Putamen — War Traumas of Spinal Cords — Second Attack of Poliomyelitis After Fifteen Years' Interval — Alcoholism and Hallucinations of Insane 1792

Functions of Thyroid 1793

Foreign Medical Journals
Two Cases of Arteriovenous Aneurysm of Popliteal Vessels — Vaccine Treatment of Filarial Lymphangitis—Epithelial Xerosis of Conjunctiva—Missiles as Emboli.....1793

High Maternal Mortality of Childbearing—Influence of Malaria on Wassermann Reaction —Variation of Wassermann Reaction—Some Forms of Irritable Heart—Carriers of Cerebrospinal Fever—Lacrimal Gland in Surgical Anesthesia—Experimental Study of Duodenal Ulcer—Hydatid Disease of Vertebra....1794

Preventoriums—Early Differentiation of Germs Responsible for Infectious Process, Especially Gas Gangrene—Postinfluenzal Nervous and Mental Disturbances — Vaccination in Paris Munitions Factories—Hippocratic Fingers—Intrapulmonary Tuberculous Glands—Enteroneuritis — White Dermographism—Pressure in the Intestines—The Pressure in the Stomach—Lethargic Encephalitis....1795

Acromegaly and Diabetes—Diabetes with Insufficiency of the Pancreas — Anomalous Spinal Fluids—Appendicitis as Complication of Movable Kidney—Enrichment of Tubercle Bacilli in Urine—Plastic Induration of the Corpora Cavernosa—Removal of Incarcerating Metal Ring—Indications for Secondary Suture—Chemical Index of Fitness of Wound for Suture—Primary Suture with Infected Wounds—Primary Suture in Stages...1796

Torsion of Spleen—Rachitis—Typhus—Spinal Anesthesia — Traumatisms of the Wrist—Reconstruction of Fractured Bone—Mechanical Orthopedics 1797

Injecting a Fluid into the Placenta to Aid in Its Separation — The Cerebral and Spinal Cord Complications of Erythremia — Mental Finger Prints—Religious Trend in Epilepsy —Experimental Traumatism of the Brain—The Blood Groups—Fungus of Madura Mycosis — Treatment of Urethral Vascular Caruncle 1798

Serodiagnosis of Typhus—Cesarean Section in Peru—Quantitative Determination of Urea in Urine—Arsenic in Amebiasis—Bronchial Disease with Tardy Inherited Syphilis—Cure of Radial Paralysis — Correction of Deformed Noses—Anise Poisoning — Detachment of Retina During Pregnancy 1799

Fracture of the Long Bones—Juvenile Deforming Arthritis—Retention of Urea with Kidney Disease—Addison's Disease—Thoracoplastic Operations for Pulmonary Tuberculosis 1800

TONICS AND SEDATIVES—BOOKS RECEIVED.....Adv. Page 20

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The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 72, NO. 24 CHICAGO, ILLINOIS JUNE 14, 1919

MEDICINE, A DETERMINING FACTOR IN WAR

PRESIDENTIAL ADDRESS *

ALEXANDER LAMBERT, M.D.

NEW YORK

No one can be elected President of the American Medical Association and fail to appreciate the great honor conferred, or fail to realize the responsibilities which may rest on him. In the recent past these responsibilities have at times lain dormant, but at other times they have actively exerted their full force, and the influence wielded by the President of this Association has had great possibilities for good or evil on the medical profession.

A year ago the problems before us were the great responsibilities of war, the conduct of that war, and the means whereby it could be pushed to a successful issue. Today, our problems still loom large, for they are those of rearrangement and reconstruction. It seems timely, therefore, to consider what the medical profession has done to fulfill its duty in the war, and what medical science has done to alleviate the dreadful horrors which, in the past, have followed in the wake of warring armies, hovering like terrible specters over the civil populations, and which sooner or later would take their death toll through epidemics of disease. We have also to consider the problems of the future and to base our actions on the lessons we have learned by the experiences through which we have so recently passed.

RESPONSE OF MEDICAL PROFESSION TO CALL OF DUTY

The medical profession of the United States needed no draft or conscription to answer the call to duty. About 20,000 of its members volunteered and thus expanded the small regular force of physicians in the Army and the Navy. At the outbreak of the war only 447 physicians as regulars, and about 1,600 of the Medical Reserve Corps comprised the entire commissioned personnel of the Medical Department in the regular army. In the navy, 329 surgeons, 161 naval reserve officers, and twenty-five contract surgeons comprised the medical staff. When the armistice was signed there were 35,000 medical officers in the army and 3,000 in the navy, which represents about 26 per cent. of the entire profession of the country.

This mobilization, added to those physicians who were taken by the draft, could not occur without great sacrifices, both by individuals and by communities, as was specially evidenced when the influenza epidemic swept over the country. But this is part of the price for war that peoples have ever paid. This mobilization of physicians was accomplished by the Surgeon-General's Office, aided by the Council of National Defense and the American Medical Association, both acting through the organized state and county societies of the American Medical Association. The wisdom and the necessity of these state organizations was never more completely demonstrated than in the last two years. Simultaneously, the justification for THE JOURNAL of the Association, as a medium through which information could be quickly disseminated, and its great influence among physicians, were never shown more clearly. The men in the executive positions of the American Medical Association and the Council of National Defense deserve the greatest credit and deserve the acknowledgment of work well done. This tribute is but their just due, and it is with keen pleasure that I take the responsibility of speaking for the profession and publicly acknowledging it.

WORK OF THE LOCAL BOARDS

In the work done by the medical profession in the war, one cannot pass by that accomplished in examining the young men drafted into the army. This work of the local boards was not done by picked specialists or by men previously trained for it. The physicians of the boards were at first usually the county and city physicians appointed by the local sheriff, and the figures form an interesting study. Of the 10,000,000 (9,952,735) called and registered, 6,750,000 (6,744,289) were not examined. Of the one third who were examined—that is, of the 3,208,448—70.4 per cent. were found to be fully qualified, while 29.6 per cent. were found physically to be totally or partially disqualified. Of the 2,124,293 who were sent by the local boards to the camps and were then subjected to the careful and minute examination of experts, 91.9 per cent. were accepted and only 8.1 per cent. rejected. It is interesting to note that in the draft of 1917 the local boards rejected 29.1 per cent., and in 1918 they rejected 29.6 per cent. The more this work is studied, the more one appreciates its extent, its far-reaching influence, and the high value of the work performed.

SUCCESS OF PREVENTIVE MEDICINE

Few realize how crucial has been the test of preventive medicine in the war just finished. Appalling as has been the number of battle casualties, the death rate from disease has been held down as never before. The statistics available show conclusively that the great scourges and plagues of former armies have

* President's address before the American Medical Association at the Seventieth Annual Session, Atlantic City, N. J., June, 1919.

been held in check: that is, typhus fever, cholera, recurrent fever, typhoid, scurvy and malaria, and, not least important, smallpox. Influenza with pneumonia, occurring in an epidemic sweeping over the eastern and western hemispheres, has been the epidemic that has baffled medical science and stands out with startling distinctness as the one uncontrolled epidemic. The death toll of pneumonia has almost equaled the battle casualties of those killed and dying of wounds in the American army. In spite of the failure to control influenza and pneumonia, this is an extraordinary record of disease control, and never, in any previous war, has the knowledge of medical science and sanitation, and the application of this knowledge been able to accomplish so much. We saw typhoid start as an epidemic in Belgium, in 1914, spread with its old-time fury among the troops at that point, and then we saw it conquered by sanitation and vaccination. We have seen typhus spread with terrible fury in Serbia and in Austria, we have seen typhus and recurrent fever break out in Russia, and again through the knowledge that these diseases are carried by body lice the epidemics were controlled. Cholera has started and been controlled through sanitation and vaccination, by both Russians and Italians. Tetanus has been practically eradicated among the wounded. Smallpox, appearing among the recruits coming from civil life, has been so quickly controlled that there were, from January, 1917, to April, 1919, in the American army of over 2,000,000 men, but six deaths from this disease. To appreciate fully the meaning of this result of preventive medicine and what the American medical profession has accomplished, let us study the battle casualties and disease rates of former wars, and, by this contrast, appreciate the achievement.

DESTRUCTIVE EFFECTS OF DISEASE IN FORMER WARS

Of course, any accurate and minute comparison requires carefully kept statistics, and such records are available only for the wars of the nineteenth century. Surgeons and physicians have been with the armies since antiquity, but they were as part of the retinue of some king, general or noble, and were not assigned to troops. Charles the Bold of Burgundy, in the last third of the fifteenth century, was the first one that definitely assigned surgeons to the troops as well as to the officers. This seems to be the isolated instance of a single ruler, for it was not till a hundred years later that the first surgeons were supplied to the British army, in an expedition to St. Quentin. In the middle of the sixteenth century the armies of Charles V did not possess surgeons or medical corps, for it is reported as an extraordinary occurrence that, in the siege of Metz, when Charles V, beaten by disease and famine, was forced to raise the siege of this town, his young opponent, the Duc de Guise, gathered the abandoned sick and wounded of the retreating imperial army and, contrary to the customs and traditions of the time, had them cared for by his own physician, the renowned Ambroise Paré.

However, it was not until the seventeenth century, in the time of Louis XIII of France, that surgeons were regularly appointed to the French armies, and not till 1660, when a standing army came into existence in England, were surgeons first regularly appointed to regiments in the English army. Not till the middle of the eighteenth century, however, was there a well-organized medical service in any of the armies. Field hospitals were not thought necessary until Cardinal Richelieu installed them, in 1639, in villages behind the fighting lines.

It is not usually realized that some of the greatest wars of modern times were fought with practically no provision made for the care of the sick and wounded, that the decision of wars has at times depended more on the wastage of the armies by disease than on the valor of the soldiers or the genius of the generals. The Emperor Frederick Barbarossa, in the Middle Ages, saw one army in Italy annihilated by sunstroke. Ten years later, after he had succeeded in storming and conquering the city of Rome itself, a pestilence swept away another army, and he was forced to flee, a fugitive, to Germany. In the Thirty Years War, the Swedish army under Torstenson fought its way from the Baltic Sea to the very gates of Vienna, where the bubonic plague so decimated his forces that he was compelled to withdraw and lose the campaign so brilliantly won. In the middle of the eighteenth century the bubonic plague again so raged, this time among the Austrian and Russian armies, that these nations were forced to bring the war to an unexpected ending and to make an unfavorable peace with Turkey. In more modern times, the disorganization and discouragement produced by disease in the French forces before Sebastopol was not a small element in hurrying the government of France to conclude peace before the ultimate aims of the campaign were accomplished.

For a background to modern hygiene, let us consider the occurrence of disease in the Thirty Years War, 1618-1648, a war fought between Protestant Swedes and northern Germans, aided, toward the end, by the French, against the imperial Catholic armies of Spain, Bavaria and Austria. This war had all the bitterness of other religious wars. The armies were often an unpaid rabble of mercenaries greedy for loot, who lived on the country, but who deliberately burned and destroyed all they could not use. They methodically wasted entire districts, thus adding famine to pestilence, for wherever these armies went they took with them and spread typhus fever. The numbers engaged, relative to modern times, were small, an entire army representing no more than one or two modern divisions, the strength of either side averaging from 20,000 to 30,000, occasionally more, often less. Bodart sums up the battle casualties of the thirty greatest engagements of this war as averaging 15 per cent. for the victors and 30 per cent. for the defeated antagonist. These losses were small indeed compared to loss by disease. The sick and wounded were uncared for except by their comrades or by the camp-followers; or they were left in villages or cities to be aided by the civilians, and were universally the foci of infection from which typhus fever spread far and wide. Smallpox was ever present in the communities. Dysentery and scurvy added their toll of death in the armies; typhus fever never ceased its virulent devastation, and, after 1632, bubonic plague imposed its terrors on the armies and stricken peoples alike. Great as was the destruction of life among the soldiers, whether from battle or by disease, the loss of life was always greater among the noncombatants, not only because of famine and pestilence, but also because of the brutal and barbaric conduct of the war. Prinzing records that the population of Wurttemberg lost by war, famine and pestilence, in five years, 300,000 persons, or three quarters of its inhabitants.

In the Electorate of Saxony, bubonic plague, typhus and dysentery, in two years, carried off 934,000 of the inhabitants. Three quarters of the entire population of Germany, over whose fields the war had chiefly been waged, were blotted out of existence, for the population dropped from 16,000,000 to 4,000,000, the logical consequences of barbarous warfare and no sanitation.

By the middle of the eighteenth century the armies of England and France had regularly organized medical corps. With its increased responsibilities the medical corps of England had been given an equivalent increased authority and independence, but the French medical service, from the eighteenth century even through the war of 1870, had neither independence nor authority, but was a subordinate part of the intendance, or quartermaster's department. In spite of the improved ideas of care of the sick and wounded in the armies of the eighteenth century, the mortality rate diminished but little. The hospitals were still only shelters for the very sick. Two, four, or even six patients were still crowded on a single bed. Overrun with vermin, with absolutely no ventilation, filthy beyond description, they still propagated typhus, plague and dysentery. Sir John Pringle, in discussing the causes of mortality in war, names hospitals as an important factor. And Turpin de Crisse declared that in the wars of the decade from 1731 to 1741 more men died in hospitals from lack of care than lost their lives in combat.

Typhus fever still raged as an epidemic among the armies in the Wars of the Spanish Succession, and in the Seven Years War of Frederick the Great. It was not till the nineteenth century, after the Napoleonic Wars, that the French hospitals showed any improvement. On the other hand, it was because of the experiences in the Napoleonic Wars that the English were able to improve the sanitary care of their wounded. This the historian Napier realizes, and he pays tribute to the success achieved:

> The extraordinary excellence of the medical officers may be said to have decided the day at Vittoria, for their exertions undoubtedly added a full division to the strength of Wellington's army, and without these 5,000 it is doubtful if his Lordship, with his unrivaled talent, could have carried the day.

Their efforts were directed more toward cure than prevention, although Jenner had, by the end of the eighteenth century, shown the first means of control, by preventive vaccination, of one of the decimating plagues, that of smallpox. In strange contrast to his habitual indifference to the fate of his sick and wounded, Napoleon seized on the discovery of Jenner, and by 1809 had succeeded in having his entire army vaccinated. There seems to be a general agreement that no man ever was more indifferent or cared less for the salvage of the sick and wounded of his armies than Napoleon. Duncan says that abandonment of the wounded was the rule by the French in the Napoleonic Wars. When not abandoned, they were huddled in buildings of every sort and left to die.

It is of more than passing interest that during Napoleon's war against Prussia, 1806–1807, typhoid seems to have been recognized. The French physicians at this period differentiated and accurately described its symptoms and lesions. From this time epidemics of typhoid are recognized and separated from the real typhus, which still ravaged both armies and population.

The retreat from Moscow and the Russian campaign of 1812 was probably the greatest military disaster of modern times. From recent authoritative French figures Bodart estimates that 680,000 crossed the frontier with Napoleon. Dysentery severely attacked the armies after they had crossed the Polish frontier, 80,000 men being down with it at one time. Of the 612,000 fighting strength, there returned to the frontier, according to Bodart, but 112,000 men. Lemazurier says that the great majority of the 30,000 French prisoners left at Vilna died. Faure claims that all of the French soldiers who fell into the hands of the Russians succumbed to typhus fever. It seems probable, therefore, that there were 100,000 men killed in battle, and at least 350,000 perished from starvation, cold and disease. Prinzing says that the instinct of self-preservation had kept the army together in a common line of march from Moscow to Vilna and on to Niemen. He adds:

> After crossing the river, however, at this point, the few unfortunate soldiers who had survived the awful misery of the march, hungry, with clothes in rags, with torn shoes, alive with vermin, with frozen and gangrenous limbs, scattered in all directions, some going home and others to strongholds that were in the hands of the French. Thus typhus fever, with which all parts of the army were infected, was spread in a comparatively short time over a large part of Germany.

The pursuing Russians did not escape free from the scourge, for in the three months from October to December they lost 62,000 soldiers, most of whom died from typhus. It is stated that the Russian armies in this campaign lost 200,000 killed and 150,000 wounded. The total of death by disease is not recorded.

The German campaign, a year later, was no less disastrous, and among the French and their allies there seems to have been some 60,000 killed and 196,000 wounded during 1813. Duncan thus describes the result of this campaign:

> But a few fragmentary battalions followed the eagles of Napoleon across the Rhine in November. The army lay scattered amid the villages on the route from Germany, the men dying by thousands and spreading a pestilence among the inhabitants. Reliable observers say that the retreat from Leipzig was no less ruinous than the retreat from Moscow, although there was no cold nor famine. The utter ruin of the army was the legitimate fruit of utter neglect of the sick and wounded.

Prinzing, studying the epidemic of typhus fever of 1813 and 1814, following the Russian campaign, believes that between 2,000,000 and 3,000,000 people contracted this disease, spread broadcast by the scattered armies of Napoleon, over 10 per cent. of whom died.

The Spanish War, in its six years' duration, 1808–1814, cost France over 90,000 killed. The deaths by disease are variously estimated as from 300,000 to 460,000 among the French army. We know that typhus fever was widespread and virulent. We know that yellow fever, in 1810 and 1811, raged furiously in the southern portion of Spain. It is known that in the siege of Saragossa, for example, of the 100,000 inhabitants, 54,000 died of typhus; and of the 30,000 soldiers, 18,000 died of the same disease before the city was forced to capitulate.

In striking contrast to this was the work of the English in the peninsular campaign during 1808-1811, under Sir James McGrigor. This surgeon had been in the Walcheren expedition on the coast of Holland

in 1809, when the English attempted to take Antwerp from Napoleon. This ill-fated expedition, of a strength of 42,000, lost 206 men killed and dying of wounds, but lost 8,000 through disease. Impressed by his experience on that expedition, MacGrigor made a most determined endeavor to rectify the conditions in the English army in the peninsula, and especially to fight typhus fever in the hospitals. He insisted on accurate medical statistics, so that, for the first time, the relative loss from the different causes might be known. In the two and a half years under this surgeon there were 2,699 deaths from wounds, and 14,269 from disease, which gives a death rate of killed or dying of wounds of forty-two per thousand per year, and 118 dead of disease. Typhus fever was controlled, but dysentery and typhoid caused 11,000 of the 14,000 deaths.

The Medical Corps of the American army, modeled more on English than on French lines, had not, in the Mexican War, 1846–1848, advanced far in the prevention of disease nor improved the waste of life of the Napoleonic era. The mortality from disease was 110 per thousand per year, and the battle loss was fifteen per thousand. Seven times as many men died of disease as were killed in action.

The Crimean War, 1854-1856, shows the highest loss from battle casualties among the Russians, and from disease among the French, of all wars of which we possess accurate records. The battle death rate among the British was sixty-nine per thousand per year, among the French seventy, and among the Russians 120. The disease death rate was 230 per thousand among the English, 341 among the French, and 263 among the Russians. The medical and human lessons do not lie in these mere figures, extraordinary as they are. They can be brought out only by a comparison between the mortality from disease in the English and French armies.

In the beginning of the Crimean War, the English were sent out unprepared. They had forgotten their lessons of the Peninsular War, they had discarded the knowledge so obtained, and they were absolutely unprepared for the war and went out with insufficient equipment, food and clothing. The first winter was terribly severe. The French, on the other hand, were much better equipped and better prepared for war, were better rationed, better clothed and had good equipment. The two armies were living and fighting together, side by side in camps, under the same conditions in the same climate. They both suffered from two epidemics of Asiatic cholera, which cost the English 4,513 deaths and the French 10,044. Comparing the French and the English death rates, excluding deaths from wounds and cholera, we find that in the first eight months of the war the English lost from disease alone 9,762, and the French 9,523. But here the story changes. Intense indignation in England at the frightfully insanitary condition and the terrible death rate of their forces produced a tremendous reaction. England rushed the military necessities of food, equipment and transport to the Crimea, and as a consequence, from May to August, 1855, the English losses dropped to 923, but the French rose to 10,545. From September to December, 1855, the English losses were 463 and the French 8,473. In the last four months the British losses by disease were 218 and the French 17,129. Comparing the mortality of the autumn of 1854 with that of the same period in 1855, we find that there was a decrease of 80.5 per cent. in the rate of the British mortality, and an increase of 62.8 per cent. in the rate of the French. Comparisons of the deaths occurring from January to April, 1855, and those from January to April, 1856, reveal that there was a decrease in the British mortality of 97.05 per cent. and an increase in the French mortality of 57.43 per cent.

The details given by Garrison of these figures are even more striking. For example, during the first winter the British lost 164 men from typhus fever, and the French ninety. During the second winter the British losses from typhus were only sixteen, those of the French 10,278. The French lost 145 men from scurvy and the British 175 during the winters of 1854 and 1855; during the following winter the French lost 964, but the English had but one death from this disease. Florence Nightingale, from whose work in this war the modern system of nursing arose, describes the situation as follows:

> . . . the most complete example in history of an army, after a great disaster arising from neglect, having been brought into the highest state of health efficiency. During the first winter the mortality rate was 60 per cent., which exceeded the rate of the great plague of London. But during the last six months the mortality was not more than among the healthy guards at home, and during the last five months it was two thirds of that among the healthy troops at home. It was the most complete experiment in army hygiene, as complete as a chemical experiment in a laboratory, but which should not be repeated, even for the benefit of inquirers at home.

The cause of the French deterioration is plainly seen from a study of the correspondence of their medical inspectors and a study of the increase of sickness in the army. Surgeon-General Longmore of the English army, reviewing the medical lessons of this war, states that "the French medical officers were completely subordinated to the intendance, or direct administration, and had no authority beyond that of ordinary civil practitioners at the bedside. Even the control of hospitals, ambulances, and medical service in battle was directed by the intendance." This quartermaster's staff, having no medical training, were quite incompetent to advise on the means necessary to preserve the health of the troops, and quite incompetent to give directions on matters of hygiene and sanitation. This situation led to the development of scurvy and typhus, with a constantly increasing virulence of these diseases, until at last their diffusion took place in such overwhelming proportion that all available resources were powerless to cope with the situation.

The short war of seven weeks' duration between Prussia and Austria, in 1866, is interesting from a medical point of view for two reasons: first, its statistics show that no improvement had been made in the Prussian army in safeguarding the health of troops or in checking the spread of disease; and second, because of this fact, within the year, the Prussian government had completed a reform of the medical service in their army, and turned it into as effective a machine to obtain the results for which it was organized as the military machine proved to be four years later in the Franco-Prussian War. This Austrian War is also noteworthy as being the first one in which the organized aid of the Red Cross societies, under the Geneva Convention of 1864, seems to have acted.

In the Franco-Prussian War of 1870, the Prussians reached the highest standard of protection against disease that any army had yet attained. The ratio of their battle casualties was fifty-five per thousand to a rate of death from disease of twenty-five. The French, however, were just the opposite. Still hampered by the quartermaster control of medical organization, in a demoralized, defeated army, they suffered battle casualties of sixty-eight per thousand and a rate of death from disease of 141. The average strength of the German army seems to have been 725,000, and their total losses were 28,500, of whom but a little over 12,000 died through disease.

Three infectious diseases had a plague-like spread in this war: these were smallpox, typhoid and dysentery. For the first time in a large European war, typhus fever did not break out in the armies. The incidence of typhoid fever in the Prussian army was as high as ninety-three per thousand. The incidence of dysentery was forty-nine per thousand. Though smallpox occurred in only 6.1 per thousand of the fighting strength, it occurred in an army that was supposed to be vaccinated. Among the French prisoners of war, however, smallpox broke out as a plague, about 14,000 cases occurring in Germany and about 25,000 in the interned army in Belgium. The incidence was fifty-four per thousand among the prisoners in Germany, which is nine times that of the German army and shows the difference between the vaccinated and unvaccinated army. Up to this time, in Germany, the population was supposed to be vaccinated, but as is usual under noncompulsory health laws, many had neglected the precaution. Smallpox followed as an epidemic in Germany, causing the death of 170,000 persons after the war. This produced a most beneficial result in causing the passage, in 1874, of a compulsory vaccination law, the workings of which have practically eradicated the disease.

To appreciate the death rate from disease in the French army one must compare its rate of 140.8 per thousand with the death rate from disease in the German army of 24.5, or with the death rate of sixty-five per thousand in our Civil War. No accurate French statistics have been published, the situation being so bad that all have wished to forget it.

The death rate in our Civil War of killed and dying of wounds is given as thirty-three per thousand, the disease death rate as sixty-five. In the Spanish War the death rate from battle is five and the death rate from disease 30.4 per thousand. In the present war, taking the statistics up to March 28, 1919, we find the rate of death from wounds received in action is 14.191 and that of death from disease is 14.797 per thousand. This includes the army on both sides of the ocean. The statistics of the American Expeditionary Forces, with an average strength of 975,716, reveal a rate of death from wounds in action of 31.256 per thousand and a death rate from disease of 11.233. Of those who died of disease, pneumonia claimed 9.146 per thousand.

Studying comparatively the diseases of the American armies during the Civil War, Spanish-American War and the recent war, we find that malaria was one of the chief causes of disability in both the Civil War and the Spanish-American War, though it caused but 6 per cent. of the deaths in the Civil War and but 10 per cent. in the Spanish-American War. But in the recent war malaria has caused such a small number of deaths that it is not given in detail, but is put into the aggregate term of "other diseases." Typhoid fever, with typhomalaria, so called, was one of the chief causes of death from disease in both the Civil War and the Spanish-American War, causing 22.4 per cent. of the deaths of the Civil War, and being the one great uncontrolled epidemic of the Spanish-American War, causing in the fighting period of the latter war 60.5 per cent. of all deaths. But in the recent war only 0.4 per cent. of the deaths are chargeable to this scourge. Pneumonia, on the other hand, causing only 13 per cent. of deaths during the four years of the Civil War and only 3 per cent. in five months of the Spanish-American War, has become the dreaded epidemic of the recent war, causing in the American army 85 per cent. of all deaths from disease. In the Civil War, meningitis caused 2 per cent. of the deaths, and 2 per cent. of the deaths in the Spanish-American War, and it caused 4 per cent. of the deaths in this war. Smallpox caused 4 per cent. of the deaths in the Civil War; in the Spanish-American War, one man died of this disease; in this war, one man died from smallpox in the United States and five in France. In 1918 and in the first months of 1919, there were 102 patients with smallpox admitted to the hospitals in the United States. These patients came into the various camps from civil life, for the disease developed among the recruits before they could be vaccinated and thus protected, but it has not developed at all among the vaccinated troops in the United States. Dysentery caused 28 per cent. of the deaths in the Civil War, and nearly 30 per cent. (29.3 per cent.) of the 5,600,000 cases of disease reported in that war. In the Spanish-American War it caused 5.6 per cent. of the deaths. But it caused only forty-one deaths out of 48,000 cases, or 0.08 per cent. of the deaths in the recent war. The transmission of yellow fever by mosquitoes does not come into consideration in the recent war, though there were small epidemics of this disease in both the former wars, there being about 1,300 cases in the Civil War and about 1,100 in the Spanish-American War.

There is one achievement by the Medical Department of the United States Army after the Civil War which stands as a lasting monument to the industry and genius of the surgeons of that time; it is the "Medical and Surgical History of the War of the Rebellion." This was the first great medical history ever published of any war, and remains still the standard to be attained.

As a result of the scientific medical work during and after the Spanish-American War, the investigations of three American army surgeons, Jesse Lazear, James Carroll and Walter Reed, gave to the world the solution of the problem of the transmission of yellow fever by mosquitoes. With this knowledge, came simultaneously the power to control this dread disease, which for centuries had been the scourge of the West Indies, and had time and again spread in devastating epidemics to this country and even to southern Europe. Lazear and Carroll laid down their lives to gain this knowledge, and paid the ultimate sacrifice in order that thousands, through their work, might be protected and live. The sanitary control of mosquitoes, and thus of tropical malaria and yellow fever, and the wise administration of this knowledge, made possible the building of the Panama Canal. It was an American army surgeon, William C. Gorgas, who seized this great opportunity and transformed a

pesthole of tropical diseases into a healthy and safe terrain, that the engineering genius of the United States Army might be free to construct the canal. The French under De Lesseps had failed because of the epidemic and tropical diseases which were at that time uncontrollable. Disease had defied and overcome engineering skill and genius. Preventive medicine controlled and conquered.

Ten years ago the practical application of the knowledge gained from the study of the epidemic of typhoid fever of the Spanish-American War brought about the compulsory inoculation against typhoid in the United States Army. It had been shown by the Vaughn and Shakespeare Board that nearly 65 per cent. of the typhoid fever of that war was transmitted by contact of man with man, and was not water borne. Hence sanitation could only reduce typhoid to a certain level and not eradicate it. The introduction of compulsory typhoid inoculation in the army has practically eradicated the disease. Following the work of the English medical corps in the Boer War, a United States Army surgeon, F. F. Russell, made possible the practical application of this method in the U. S. Army and proved conclusively that typhoid fever could be completely controlled. The American Army Medical Corps has, in the recent war, discovered the transmissibility of trench fever by body lice, and thus has shown the means of prevention of this new disease which, while killing no one, rendered thousands of men useless for weeks and ineffective for fighting. This discovery came to save thousands of men for the fighting lines at a time when they were urgently needed.

MODERN CONTROL OF DESTRUCTIVE DISEASES

Medical science has today, therefore, within its grasp the power to control the diseases which, in former times, decimated warring armies and spread out from these armies among the noncombatant populations. Formerly, when war broke out, it was almost inevitably followed by some dread pestilence among the civil populations of the countries in which the war was waged. By proper sanitation and preventive inoculation, dysentery and cholera can be abolished; by vaccination armies can be protected against smallpox. Body lice disseminate typhus, recurrent fever, and trench fever, and by proper disinfestation of these vermin these diseases cease to occur. Through sanitation and preventive inoculation, typhoid fever, the scourge of the two previous wars, is absolutely controlled, and this includes also paratyphoid, which has been recognized as a separate entity only since the Spanish-American War. In the Spanish-American War, 60.5 per cent. of all deaths were caused by typhoid, and in the present war 85 per cent. were caused by pneumonia. The typhoid of the Spanish-American War was due to local causes and local epidemics. The pneumonia of this war was beyond control, and was part of a world-wide epidemic that swept over both hemispheres, and the morbidity and mortality of some of the cities of this country exceeded those of the camps. Subtracting the death rate caused by pneumonia from the total death rate by disease in the recent war, we have 2.2 per thousand for the entire army on both sides of the water, which is practically a peace-time death rate. Meningitis has caused, in this war, ten times as many deaths as typhoid fever; pneumonia has caused two hundred times as many. Mumps and scarlet fever, of the infectious diseases of the young men, remain as yet to be controlled, but they are not of great import in the armies in war. The disabling type of disease coming under the head of venereal disease has, in this war, been so controlled that the number of cases brought from civil life was greater than the number occurring in the American Expeditionary Forces in France, which was reduced to twenty-two per thousand per year, a rate only one eighth as high as the incidence among recruits coming from civil life, and only one third as high as the best that ever had been accomplished in the army before.

Influenza, measles and pneumonia, in the respiratory group, still stand as baffling problems, and their control has not been accomplished. Measles appeared and spread until it no longer had material on which to spread, as one attack confers immunity to a second. Pneumonia, following influenza or originating as a primary disease, still eludes control. But the knowledge which we have gained in this war of the methods of its spread, of the various infectious organisms which produce it, and their various types and varying virulence, of its occurrence as a secondary complication to measles and influenza, has enormously increased. The value of the facts thus learned are incalculable, and belief is justified that the problem is better understood than ever before, and that we soon shall see the solution of these problems.

The occurrence in the camps of meningitis, another disease of the respiratory group, as far as its portal of infection is concerned, has been forty-five times as frequent in the army as its occurrence in civil life among the same age group. This has been due to overcrowding and the diminution of air space allowed the individual soldier in badly ventilated barracks. The responsibility for these sanitary sins rests on the General Staff and not on the Medical Corps.

VALUE OF LESSONS LEARNED IN DETERMINING ACTION IN FUTURE

What then are the lessons that we can draw for future action? There is no question but that the salvage of human beings, the protection of troops from disease in an army, renews and saves the fighting forces. Until recently, until medical science could control disease during war time, armies had been more decimated and injured by disease than through battle casualties. Now that, except for epidemic spread of respiratory diseases, the communicable and epidemic spreading diseases can practically be controlled, the medical corps of an army has become an essential part of the fighting organization. Whole nations must now go to war. No longer can they mobilize a selected portion of volunteers and send them to fight the war and defend the nation. Since all the youth of the nation must mobilize and turn to war, it becomes the duty of a general staff to save its man power and to salvage it to the greatest extent possible. The history of the Crimean War, of our Spanish-American War, and our experience in the recent war have clearly shown that only through proper representation on the general staff by those men trained in such salvage, and by experts in such knowledge of sanitation, can this duty be performed. When the General Staff of the United States Army comes to realize this fully, one cannot conceive that it will fail to give proper representation in its councils and organization to the Medical Department. The practical necessity for this was finally

recognized in the A. E. F. by General Pershing and three medical officers were detailed at General Headquarters as substantive members of the General Staff. Responsibility and authority cannot be separated, and only by such organization can adequate authority equal the inevitable responsibilities.

In the mobilization of the industrial forces of the nation by the Council of National Defense, the health of the nation and the protection of both nation and its armies was regarded of such importance that it demanded direct representation of the medical profession on this board. This is also true of the navy, for its Medical Department is represented on the General Board. Oddly enough, the anachronism still exists that in the General Staff of the United States Army the Medical Department is regarded as an outsider. The safeguarding of the health and fighting vigor of an army, the salvage of its wounded, the saving of man power through protection from disease are still regarded as foreign to staff organization. The medical and sanitary formations are still regarded as noncombatants, although those serving with the troops often go forward and mingle with them in the combats, that the morale of the men may be better sustained. Duty demands it, and they have shown themselves willing, in this war, to be unarmed combatants, not noncombatants. The ratio of the medical officers killed and dying of wounds has been exceeded only by that of the infantry and artillery, which branches necessarily bear the brunt of the battles. The pro rata death rate of the medical officers has exceeded that of aviators and of engineers.

This subject is a matter for congressional action, but the profession of this country, while the experiences of this war are still vivid in its mind, must turn to the Congress, must make an intelligent exposition of these facts, and must bring about, by legal enactment, an adequate representation of the Medical Department on the General Staff of the army.

EDUCATIONAL NEEDS OF THE MEDICAL PROFESSION

One lesson of the war which stands out with great distinctness is the necessity for the American Medical Association to continue its unceasing struggle to raise the standards of medical education in this country. Such are the increasing demands made on the medical profession that the young men entering it today must realize that the broad and excellent education obtainable is none too good. It is not asking too much to require that all medical schools which are permitted to continue should soon be raised to the A Class.

There is another urgent educational need in this country that should be taken up immediately: that is, increase in the postgraduate opportunities for medical study. The opportunities that are presented in this country are practically undeveloped. It is for the profession to develop them, and every member of the Medical Corps of the army should be given an opportunity to avail himself, for a certain number of weeks each year, of the chance to study some branch of medicine or surgery at some medical center—not required to do it at his own expense, but detailed by the government to take up, for a definite number of weeks, his chosen branch of study. Physicians acquire their knowledge best by daily contact with opportunities which broaden their experiences. The opportunity to do this at short intervals, rather than at intervals of two, three or five years, would produce better results.

NEED OF IMPROVED ORGANIZATION

One very important duty to be performed soon is the reorganization of the Medical Reserve Corps and the rearrangement of the Medical Reserve officers and of the medical officers of the National Guard into one National Reserve Corps. This must be done when a realization that the medical profession in the regular Medical Corps and in the Reserve and National Guard Corps are all members of one and the same profession, united in desire to serve and obtain a single objective. Those in the Regular Corps have specialized in the study of medicine in its application to military requirements. The Reserve and Guard Corps have specialized in clinical medicine, with sufficient knowledge of military requirements to permit of their early adaptation to military environment when war comes. Equal ethical responsibilities rest on all alike, since all are called together for the common purpose of caring for the sick and wounded of the army; but the amount of practical responsibility must be unevenly distributed among individuals, that proper organization may be perfected.

Authority of the individual must always equal his responsibilities. Military authority is always expressed by rank and cannot be separated from it. Hence rank, authority, and amount of responsibility must coincide. The Reserve and Guard Corps should not be discriminated against in rank, as they have been in the past, because it invariably prevents authority from equaling responsibility, and thus cripples efficiency. One solution would be to have all Reserve Corps officers of equal rank, such as captain, and have the office held bestow the authority in proportion to the responsibilities contained therein. The administrator of each hospital unit must always have supreme local authority, but there should be an appointed group of clinical consultants in the different specialized branches of medicine, surgery and sanitation for the proper correlation of clinical procedures, that there may be uniformly good treatment and care given equally to all sick and wounded in all hospitals. Medical and surgical specialization was developed in the army for the first time in this war, and beyond question it must remain permanently. These consultants should be utilized as medical and surgical advisers on clinical subjects to the Chief Surgeon, with direct access to him without intervening mechanism of departmental heads. It is axiomatic that these consultants must have sufficient rank and authority to equal their responsibilities, and necessarily higher rank than the commanding officers of the hospitals under their supervision. These are but suggestions, and it is unnecessary to go further into details at this time, but some solution of this problem must be found soon.

RELATION OF RED CROSS TO ARMY

The relationship of the Red Cross and the army is not generally understood. The Red Cross is not a private society supported by private contributions, but is a governmental body incorporated by Congress, with a definite function, that of giving voluntary aid to the soldiers and sailors of the army and navy during war. It differs from other governmental functions in that it is not supported by congressional appropriations, but by voluntary contributions. Many of its functions and their limitation are defined in international treaties with other nations. Originally conceived to give aid to the

sick and wounded in battle, and to place them and the attending medical and nursing personnel safely into a special noncombatant group, its functions have broadened and grown until they ramify, in war time, among civil and military populations alike.

When, two years ago, the war began with us, the popular idea in the army, among the majority of medical and line officers alike, of the full extent of Red Cross duties, seemed to be that the Red Cross workers were to be kept as far in the rear as possible, to hold the little hot hand of the homesick convalescent soldier, and, on off moments, make comfort bags for soldiers and sailors. The idea of the average person eager to go into Red Cross work was to make as many surgical dressings as possible and, with armfuls of these, keep as far forward in the advanced zone as possible, ready to rush on the field of battle and stem the hemorrhages of the wounded and gasping soldiers. Stern reality soon effected a compromise, and time only permits here of a short reference to some of the medical activities in their relation to the army.

The war has shown that the Red Cross has proved an excellent stop-gap for supplies, and a source of all kinds of emergency and surgical supplies and relief, even to complete and extensive hospitalization, when the situation called for them. No more satisfactory and cordial relationships could have existed between two departments than did exist in France between the Medical Department of the Red Cross and the Chief Surgeon's Office of the American Expeditionary Forces. Because of this relationship, the Red Cross was able to supply opportunities to the medical men in France which could not otherwise have been obtained. Through the broad-minded policy of Major Grayson M. P. Murphy, Red Cross Commissioner to Europe, there was formed a research committee, with American, English and French medical men, which fostered research and secured progress in medicine even during the war. The discoveries of the origin of trench fever and its transmission through body lice was the direct result of this. The standardization of blood transfusion, the striking progress of surgery of the chest, and the continuous study of surgical shock are other examples of work accomplished by this same committee. Through the Red Cross Research Society, whose membership consisted of all members of the Medical Corps in France, this research committee furnished a forum in which was discussed and given out the knowledge of medicine and surgery of the war, gathered in the years just previous to our entry. It proved to be the intellectual center for the medical portion of the American Expeditionary Forces, and here, discussion by the Medical Corps of the British and French armies in its meetings, gave to the members of the American Medical Corps the knowledge gained in the hard and cruel experiences of the three years previous to our entrance. It was by this means that the American Medical Corps started with the medical knowledge of 1917 instead of with the knowledge of 1915 or 1916. It thus trained and prepared thousands of officers by reenforcing their practical experience with knowledge of the experiences to come.

The Red Cross also published a medical journal, a digest of all war articles of the Allied countries, and disseminated these broadcast in the American Expeditionary Forces and among the medical corps of our Allies. It further disseminated knowledge by means of a library and a medical intelligence department that furnished, on request, any information regarding scientific subjects. It thus supplied medical knowledge, and prevented medical stagnation and deterioration through lack of knowledge.

One of the unforeseen but logical sequences of the Red Cross Research Society was to establish a liaison with the medical corps of our Allies. Instead of a slow and gradual acquaintance, there arose a rapid amalgamation and a rapid fusion into a frank and trusting friendship between the medical men of France, England and America. This proved to be one of the really valuable contributions which the Red Cross made to the war. Another contribution of great value was the making and furnishing to the army of the nitrous oxid for general anesthesia. Researches with this gas showed that, in the seriously wounded suffering from surgical shock, it did not increase this shock, as chloroform and ether did, nor did it tend to send into shock the seriously wounded. The death rate, with this general anesthetic, was 20 per cent. less among the collapsed and seriously wounded than with the other anesthetics. The Red Cross brought over to France a plant to manufacture this gas; it manufactured it and placed it up in the front hospitals of the advanced zone. The practical proof that such an anesthetic, in huge cylinders, could be carried forward to the advanced hospitals, and used in practical abundance back of the battle lines, was a successful accomplishment. The lives saved justified the expenditures, for its advantages were so definite that its use meant the purchasing of the lives of our wounded.

Another real contribution by the Red Cross, in administrative matters in the war, was the founding of the base hospital organizations on the advice of Gen. J. R. Kean. These organizations brought together from various hospitals groups of medical and surgical men and nurses who were accustomed to work together and who knew each other's ideas and ways of work, and had them fully equipped and prepared for service before war broke out. The Spanish-American War had shown how difficult it was to gather men quickly into efficient organizations with no previous acquaintance which accustomed them to work together. The base hospital units produced a homogeneous structure instead of a heterogeneous mass thrown together by haphazard, and even when members of the hospitals were taken out later and sent as leaders of other units and teams, there still remained the basic continuity, which proved of the greatest value. It is of the utmost importance for future preparedness that the Red Cross should have these base hospital groups ready to go at all times, and nothing should be allowed to stand in the way of this or of some similar plan. As is known, the Red Cross gave up these units to the army as soon as they were called to active duty.

It is a question, and one that should be fully discussed, whether or not it would be advisable for the Red Cross to retain control of the base hospitals in the rear zone of the army. This has been done in Italy, by the Italian Red Cross, with pronounced success, and the chain of hospitals continued up even into the advanced zone; but where they touched the advanced zone they left the control of the Red Cross and proceeded under the control of the army. The Red Cross can often obtain its supplies quicker than the army, and can often act independently in emergencies in which the army must proceed along more slowly acting established lines. The American Red Cross has shown

conclusively in France that, with its own or with army personnel, it can furnish, equip, and efficiently run hospitals in the advanced zone, or in the rear as base hospitals. This has proved advantageous in an emergency. Would it not prove equally advantageous as an established policy?

NATIONAL CONTROL OF PREVENTABLE DISEASE

I desire to draw but one more deduction from the medical lessons of this great war, and that in reality is the climax toward which everything points. That is, if this nation, through its present medical knowledge, has within its grasp the power to control communicable, and hence preventable, diseases, there must be established a nation-wide controlling organization for this purpose, a National Department of Health. Over 33 per cent. of our young men were disqualified from the draft for physical defects. There is need of wider supervision of our growing boys and girls to build up a more robust nation, and it is especially urgent in rural districts. If we are to have some form of universal military service, the very necessity of its universality demands some general supervision of the health of the youth of the nation, through protection against the transmissible diseases, and direction over the giving of health to the people as we now give education. This war has taught that there remains economic value in the maimed and wounded, and it is our duty to develop this value to its fullest extent. The maiming and injury of our workers, in the everyday work of industry, far exceeds each year the battle casualties of this war, and there is an economic necessity and duty to be performed in the salvage and reconstruction of the industrially injured.

Malaria still prevents the use of large areas of our southern states, and saps the energy of a large portion of the population. Typhoid fever still rests as a blot on the rural hygiene of this country. The control of epidemics between states is already in the hands of the Public Health Service, and within states, if state authorities request aid. Quarantine from outside infection is also under federal control. There are many other federal activities partially supervising health and disease through the various departments of the federal government. But it all lacks the efficient power of central correlation, and there remain many public health activities that should be undertaken by central action, from some of the problems of infant mortality to the problems of the increase of degenerative diseases of late middle life. It is the duty of the American Medical Association, and of each member of each state association, to urge on Congress the establishment of a National Department of Health.

Hull (England) After-Care Colony for the Tuberculous.—This colony was opened in April, 1918. The first report detailing the history of the movement and work done to Dec. 31, 1918, has just been issued. The colony is intended for such persons as have previously suffered from tuberculosis, in whom the disease is arrested, and who are certified to be noninfectious and able to perform at least six hours of hard work daily. Every applicant undertakes to remain for at least one year, during which time the individual is brought to full earning capacity by a gradual process of training. The work consists of market gardening, fruit growing, intensive horticulture, sheep, poultry and pig raising. The women colonists also assist with light household duties. The rearing of medicinal herbs is also to be attempted during the coming year. The colonists pay a certain sum for their maintenance, but they receive pay for their work.

INTESTINAL PARASITES IN OVERSEAS AND HOME SERVICE TROOPS OF THE U. S. ARMY

WITH ESPECIAL REFERENCE TO CARRIERS OF AMEBIASIS *

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The intermingling of men from the tropics and of troops which had seen service in regions where amebic dysentery is widely endemic with our own troops on the western front during the war has opened possibilities of increased infections by *Endamoeba dysenteriae* and other intestinal parasites. This is especially possible in cases of dust-borne, fly-borne or water-borne infections in which ova or cysts from the stools of infected men find their way into the food or water of troops in the trenches or in the even more exposed conditions attending a rapidly advancing army.

EXAMINATIONS FOR INTESTINAL PARASITES

Examinations of 1,200 men of the United States army who had been in overseas services, and of 300 men from home service troops, have made possible the following preliminary account of the relative degrees of infection in these two groups of men. This work has been carried on at the Army Laboratory, Port of Embarkation, New York, since Dec. 28, 1918. The overseas troops examined were sick and wounded soldiers in transit through Debarkation Hospital No. 3, New York City. They included men who had seen service in Flanders, Château Thierry, the Argonne and Toul regions, as well as quite a number from France who never reached the front. They are drawn from 584 different regiments, etc., and are therefore fairly representative of our overseas troops. They come from every state in the Union and constitute approximately a fair sample of our population. Only a small fraction of them saw service on the Mexican border. It is obviously impossible to determine what proportion of the infections detected in them were acquired overseas and which ones are of home origin.

The home service troops are mainly cooks, bakers and food handlers from the port of debarkation and principally from the Medical Department. Of the total of 300 men examined, eighty-two, or 27 per cent., bear foreign names suggestive of Russian, Polish, Italian

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* From the U. S. Army Laboratory, Port of Embarkation, New York City, E. H. Schorer, Major, M. C., U. S. Army, officer-in-charge.

* For an amplification of this subject we would refer the reader to an article giving further details of the work done at the New York Army Laboratory, namely: Kofoid, C. A.; Kornhauser, S. I., and Swezy, Olive: Criterions for Distinguishing the Endameba of Amebiasis from Other Organisms, Arch. Int. Med., to be published.

* In the names of the organisms mentioned in this article, I have followed the best biologic usage on the following points: (1) Dysenteriae in place of histolytica as the specific name for the ameba of human amebiasis. This usage will shortly be sanctioned by the Committee on Protozoology of the National Research Council, has recently been approved by the British Academy of Medicine, and is the current French usage. I shall use it in my report to the National Research Council. (2) Trichuris trichiura for Trichocephalus dispar. The latter is displaced by the former in all the best recent parasitologies, and is the legal name for the species. (3) Giardia for Lamblia, for the last-mentioned reasons.

or Spanish origin, and at least seven are negroes from Florida. This group, therefore, is less typical of the American troops as a whole than is the overseas group examined by us. They presumably present a higher degree of infection by reason of their origin than would a fair sample of our population.

Examinations for ova of intestinal worms were made by the brine-loop method,[1] while that for protozoan cysts was made by the direct smear method, with the use of Donaldson's iodin-eosin stain,[2] supplemented by the concentration method of Cropper and Rowe,[3] substantially as modified by Boeck.[4] Obscure infections have been critically determined by fixed smears stained in iron hematoxylin. The concentration method has added less than 10 per cent. to the infections detected by the direct smear, mainly *Endamoeba coli.*

Only a single examination was made except of thirty-six (3 per cent.) of the men examined from overseas and thirty-two (16.7 per cent.) of the home service troops. In these, two or more samples were secured for examination. In the overseas group, the reexamination of thirty-six patients, with a total of ninety-nine examinations, or 2.75 examinations per individual, increased the number of different infections detected from forty-four to seventy-nine, or from 1.2 to 2.2 per individual. Thus the first examination revealed 56 per cent. of the infections found in 2.75 examinations. In the home service men, the examination of nineteen patients, with a total of sixty-six examinations, or 3.5 examinations per individual, increased the number of infections detected in these cases from thirty-two to fifty-nine, or from 1.7 to 3.1 different infections per individual. In this group the first examination revealed 54 per cent. of the infections found in 3.5 examinations per individual.

This limited finding points in the same direction as the fuller data of Dobell[5] and others in England, where approximately one third of the protozoan infections detected have been found on the first examination. In view of the large percentage of cases in which we have been able to make only one examination, it is highly probable that the total percentage of men infected among those we have examined is considerably higher than our records indicate for the protozoan infections including that of amebic dysentery. If Dobell's[5] ratio is accepted as applicable to our findings, our records of infections by protozoa may be increased approximately threefold if one is to estimate the total extent of the infections really present. The accompanying table presents a summary by numbers and percentage of infections of 1,200 troops from overseas and 300 who have had only home service.

EXTENT OF INFECTION WITH INTESTINAL PARASITES

An inspection of the table shows that the infected men (798, or 66.5 per cent.) are relatively more numerous in the overseas group than among these who have had only home service (177, or 59.2 per cent.), and on computation it appears that overseas men average 1.32 infections by different parasites per man as contrasted with 1.23 infections for those having home service only. This indicates that many of the infections were presumably carried overseas and not acquired there in the first instance, although there is some evidence that many overseas men carry heavier infections than do home service troops. In determining the significance of this slight difference, the sources of the home service men previously referred to should be considered. It may be that the percentages of infections found among them are somewhat higher than they would be in the more representative troops overseas.

The detailed analysis of the data exhibits certain very significant features. In the first place, the men with hookworm infection were all, with two exceptions, one from Italy and one from Massachusetts, from the known area of hookworm occurrence in this country. There is thus no definite indication of acquisition of this infection overseas. The situation is strikingly different with regard to infections by *Trichuris trichiura,* the whipworm. In home service troops there were six infections, or 2 per cent., while in the overseas troops there were seventy-two, or 6 per cent. This threefold increase is all the more significant when allowance is made for the fact that five of these infections were in recent immigrants from Italy (four) and Russia (one). If we deduct these numbers, the percentage of infection in the remaining falls from 2 to 0.3 per cent. Even this percentage is probably not representative of our troops on departure overseas. An examination of 145,016 men in the Southern Department, made by the laboratory car *Metchnikoff,* detected only 162 cases of infections by *Trichuris,* or 0.1 per cent. These men were mainly from Texas and

TABULAR SUMMARY OF INFECTIONS BY INTESTINAL PARASITES IN 1,200 OVERSEAS AND 300 HOME SERVICE TROOPS OF THE UNITED STATES ARMY

CASES OF INFECTION

			Cestodes			Nematodes			Rhizopoda				Flagellata							Misc.	
Source	Total	Negative	Bothriocephalus Latus	Hymenolepis Nana	Taenia Saginata	Hookworm	Trichuris Trichiura	Ascaris Lumbricoides	Endamoeba Coli	Endamoeba Nana	Endamoeba Dysenteriae	Endamoeba Gingivalis	Dientamoeba Fragilis	Trichomonas Intestinalis	Tricercomonas Intestinalis	Waskia Intestinalis	Chilomastix Mesnili	Giardia Intestinalis	Sporozoa—Isospora	Blastocystis Hominis	Iodin Body Phycomycete Spore
Overseas....	1,200	402	0	7	0	78	72	12	328	325	130	1	1	2	1	3	70	63	6	366	120
Home service.....	300	123	1	0	1	15	6	1	61	92	9	1	1	2	1	4	10	18	2	100	43
PERCENTAGES OF INFECTION																					
Overseas....	1,200	33.5	0	0.6	0	6.5	6	1	27.3	27.1	10.8	0.1	0.1	0.2	0.1	0.3	5.8	5.3	0.5	30.5	10
Home service.....	300	40.8	0.3	0	0.3	5	2	0.3	20.3	30.7	3	0.3	0.3	0.7	0.3	1.3	3.3	6	0.7	33.3	14.3

1. Kofoid, C. A., and Barber, M. A.: Rapid Method for Detection of Ova of Intestinal Parasites in Human Stools, J. A. M. A. **71:** 1557 (Nov. 9) 1918.
2. Donaldson, R.: An Easy and Rapid Method of Detecting Protozoal Cysts by Means of Wet-Stained Preparations, Lancet **2:** 571, 1917.
3. Cropper, J. W., and Rowe, R. W. W.: A Method of Concentrating Endamoeba Cysts in Stools, Lancet **1:** 179 (Feb. 3) 1917.
4. Boeck, W. C.: Rapid Method for the Detection of Protozoan Cysts in Mammalian Faeces, Univ. Calif. Pub. Zool. **18:** 145, 1917.
5. Dobell, C.: Amoebic Dysentery and the Protozoological Investigation of Carriers, British Med. Research Comm. Report 4, 1917.

Oklahoma, but representatives of every state in the Union were included.

Infections by *Trichuris* in 1,200 overseas men were seventy-two, or 6 per cent. This is three times that in the home service group, or eighteen times if known immigrants are excluded, and sixty times that in the large body of representative troops from the Southwest. The greater part of these infections thus appeared to have been acquired overseas. Brumpt[6] observed from 30 to 70 per cent. infections in necropsies and stool examinations at Paris, from 72 to 82 per cent. in the miners of Lorraine and Verdun, and 100 per cent. in central Italy. Infections by Trichuris appear to be quite common in Europe.

The ova of *Trichuris* are discharged in the stools of infected persons; there is no intermediate host, and infections occur, so far as is known, only by mouth, when food or water is contaminated with infected feces. The ova are highly resistant to adverse conditions, and, under control, have been kept alive for five years in the infective stage. Sanitary conditions in rural France, and in the zone of advance on the western front, provide favorable opportunities for contamination of food and water by these resistant ova. The agency of flies in spreading this and other intestinal infections is well known, and the plague of flies at times on the western front during the military activities of the summer of 1918 is a matter of abundant testimony by those engaged therein. This increase in infection by *Trichuris* in overseas troops, as compared with that in home service troops, is an index of some value of the extent and degree of the exposure overseas to fecal contamination of food and water.

The most marked contrast, however, between infections in home service and of overseas troops is seen in the case of infections by *E. dysenteriae*. In the former there are nine infections, or 3 per cent., while in the latter there are 130, or 10.8 per cent., an increase of nearly threefold in the overseas troops over the infections in the home service troops examined by us.

In estimating the significance and value of these results regarding carriers of amebic dysentery, the following circumstances should be considered:

1. In all cases of infection by *Endamoeba nana*, a small tetragenous intestinal ameba of man recently described by Wenyon and O'Connor[7] as *E. nana*, we have differentiated this parasite from *E. dysenteriae* in our findings. It is, as the table shows, a very common ameba in man in both overseas (27.1 per cent.) and home service (30.7 per cent.) troops. There is some evidence in figures in the voluminous earlier literature that this ameba has in some instances been confused with the true dysenteric ameba. The possibility of such confusion renders previous reports of carriers of *E. dysenteriae* in this country and elsewhere tentative and subject to revision. This applies to determinations on both cysts and free amebae, for the former are tetragenous and the latter have ectoplasmic pseudopodia as has *E. dysenteriae*.

2. There has been little, if any, selection of cases for examination. The data represent the average run of the sick and wounded men received at Debarkation Hospital No. 3. They are not, as a rule, dysenteric patients, though many of those carrying cysts of *E. dysenteriae* report one or more attacks of diarrhea or dysentery, in some cases with the sick call and treatment, while on the western front. There are some instances of infection by *E. dysenteriae* with no previous record of intestinal disorder. This is often the case in the infections among home service troops.

3. In only a small percentage of cases has more than one examination been made. Continued examination for six successive days, as recommended by Dobell,[8] would unquestionably increase the number of infections detected. Results in Great Britain indicate that approximately one third of the cases detected on six successive examinations may be detected by experienced examiners on the first examination.

NUMBER OF PARASITES DISCHARGED BY CARRIERS

The presence of these carriers of amebic dysentery constitutes a menace to health in the communities in which they reside, especially where sanitation is neglected and the fly nuisance prevails. The number of cysts discharged daily by a carrier of amebic dysentery varies greatly according to the degree of infection. A patient moderately infected with *E. dysenteriae* was kept under daily examination for forty-two days, and the whole stool was stirred to a uniform suspension and diluted to from 500 to 1,000 c.c. with physiologic sodium chlorid solution. The numbers of cysts of *Giardia intestinalis*, *E. dysenteriae* and *E. coli* were determined in the counting chamber of a hemacytometer and computed for the stool as a whole, with the result that the *E. dysenteriae* cysts were found on twenty-six of the forty-two days in numbers ranging from 330,000 to 45,000,000 per day, averaging 14,520,000 for the twenty-six days, or 8,145,000 for the whole period of forty-two days. Cysts of *Giardia intestinalis* were present on only seventeen of the forty-two days, in numbers varying from 5,000,000 to 3,625,000,000 per stool, and averaging 965,200,000 per day. *E. coli* was much rarer, being found in this case on only three of the forty-two days, with an average of 3,110,000 cysts per day for the three days. The margin of error in these computations is large, but, after due allowance is made for this, the number of cysts discharged from carriers is still large enough to provide for extensive dispersal by flies or other agents. The size of these cysts ranges from 5 to 20 microns in the main, most of them being from 7 to 15 microns in diameter, and they are thus of such volume that they could easily be carried on the feet of the fly. Computations show that from 100 to 150 of the larger cysts, and from 500 to 2,000 of the smaller ones, could be crowded in the area of a fly's foot in a single layer. The agency of flies in such distribution has been suggested by Craig,[9] and experimentally proved by Wenyon.

THE CARRIER PROBLEM

The possibility that the carrier problem in the case of amebic dysentery and other human protozoan infections is a much larger one than hitherto generally recognized is raised by the data here presented. Furthermore, the findings among home service troops are indicative that the endemic area of infection by *E. dysenteriae* in the United States is not confined to the Southern states. This is confirmative of the findings of Smithies[10] and of the earlier findings of Craig.[11]

6. Brumpt: Précis de parasitologie, p. 469, 1913.
7. Wenyon, C. M., and O'Connor, F. W.: Spread and Incidence of Protozoal Infections in British Troops, etc., J. R. Army Med. Corps 28: 346, 1917.
8. Dobell: Amoebic Dysentery and Protozoological Investigation of Carriers, British Med. Res. Comm. Rep. 4, October, 1917.
9. Craig, C. F.: Occurrence of Endamoebic Dysentery in the El Paso District, Mil. Surgeon, March and April, 1917.
10. Smithies, F.: Frequency of Protozoic Enterocolitis in the Middle West, Am. J. M. Sc. **156**: 173.
11. Craig, C. F.: The Parasitic Amoebae of War, Philadelphia, 1911.

The presence of distinct size races in *Endamoeba dysenteriae* has been determined by Dobell.[12] Our material shows evidences of similar diversification, but as yet without evidence of the correlation of any particular races with cases in which clinical symptoms of disease have not as yet appeared. Extensive experimental evidence is needed to test the pathogenicity of these various races.

THE LOCAL USE OF ANTIANTHRAX SERUM IN TREATMENT OF ANTHRAX *

JOSEPH C. REGAN, M.D.
BROOKLYN

Various methods of local treatment have been tried in the therapy of anthrax. Among the measures used to destroy the pustule are, (1) excision, (2) the application of chemical or thermal cautery, and (3) the injection of germicides into the region of the pustule—such as tincture of iodin, phenol (carbolic acid), and a solution of mercuric chlorid. All these methods of treatment are objectionable, in that they either cause more or less extensive scar formation, the contraction of which often leads to disfigurement of the part, or are apt to produce toxic or poisonous symptoms, according to the substance injected. Excision has also the additional danger of laying open the blood and lymphatic channels so that symptoms of systemic infection may supervene, and the operation by no means always terminates the local process. Moreover, most of the methods, by their destructive action on the tissues, tend to increase sloughing, retard healing, and subsequently greatly prolong convalescence.

Hence, some method of treatment which does not possess these objectionable features would be desirable providing it proved effective in controlling the infection. Antianthrax serum has been used for some years in the treatment of anthrax, especially in France and Italy. Several authorities have reported a decided lowering in the mortality rate as a result. Thus Sclavo[1] reports a striking fall in the mortality in Italy, from 24 per cent. to 6 per cent., following the use of serum. Encouraging results are also reported from France and England. The serum has been used but little in this country as compared with Europe. The action of the antiserum is little understood, but it has been shown experimentally to possess prophylactic and therapeutic properties in animals (Marchoux[2]). It has always been administered by either subcutaneous, intramuscular or intravenous injection. I could find no record in the literature of its previous use locally.

The following report is therefore made in order to call attention to the satisfactory results of the injection of serum locally around the lesion. Another case of similar character has previously been reported.[3] The modus operandi of the serum is rather difficult to explain at the present time, as so little is known of the type of antibodies which it contains. However, clinically the method was followed by unusually rapid improvement and by recovery of the two patients treated. It possesses none of the disadvantages of the previous methods of local treatment, and for this reason should be preferable providing that future reports continue to establish its value. It is of considerable importance that a recently prepared serum be used, one that is not more than six months old. It must be remembered, of course, that no local treatment can be effective if a blood infection exists, and for this reason additional serum should always be given, either by intramuscular or intravenous injection depending on the severity of the case. However, there can be little doubt that proper local measures, if used early in the disease, will reduce to a minimum the chances of an anthrax septicemia.

REPORT OF CASE

A man, aged 19 years, was admitted to the Kingston Avenue Hospital, Dec. 30, 1918, with a diagnosis of anthrax.

History.—His family and previous history were irrelevant to his illness. He was not addicted to any kind of alcoholic beverage, nor did he smoke, and there was no history of venereal disease. For the previous eight months the patient had been working in a factory in which hair brushes of various kinds were manufactured. His work had been mostly sweeping up the floor, handling hair, etc. On Friday, Dec. 27, the patient noticed a small red pimple on his cheek. It was not very painful and gave him no particular trouble. On the following day he began to feel more discomfort; the cheek began to swell considerably and he could not lie on that side owing to the pain in his neck. He visited a private physician, who advised him to go to the hospital for treatment.

Physical Examination.—On entrance, the patient was rather ill and somewhat irrational. He answered questions poorly, and could remember little of the manner of onset of his illness. On the left cheek there was a considerable swelling. The center of the swollen area was occupied by a pustule, which was elevated above the surrounding tissue and measured almost 3 cm. in diameter. The inner part of the pustule was comprised of a black depressed eschar, which was of a rather leathery and gummy consistency, and was so adherent to the surrounding tissue that it could not be removed. Around this central eschar there was a white elevated border, the "blanched zone," and this, in turn, was encircled by a red areola. At the outer margin of the eschar there were a number of small elevations resembling vesicles, which discharged continuously a serous secretion, giving the entire pustule a peculiar, moist appearance. The tissues immediately around the pustule were very edematous and infiltrated, the swelling extending downward to the angle of the jaw and inward to the left eye, causing such marked edema of both lids that the eye could not be opened. The edematous area was not particularly sensitive; it did not pit on pressure and was not of a hard consistency.

General examination of chest and abdomen failed to show any very definite pathologic condition with the one exception that the heart sounds at the apex were of rather poor quality. The reflexes were normal in response. The temperature, on admission, was 100, pulse 92 and respirations 24.

Clinical Course.—Smears and cultures were taken on admission from the secretion of the vesicles and from the base of the pustule, by lifting up as far as possible the margin of the eschar. A blood culture was also taken. On the following day, December 31, the smears and cultures having proved positive for anthrax, a needle was inserted into the skin at the margin of the red areola, being directed fairly deeply into the subcutaneous tissues at the base of the pustule; it was then connected with a syringe and 12 c.c. of antianthrax serum was injected very slowly into these tissues in such a way as to almost circumscribe the pustule, the needle being of necessity inserted at three different points around the

12. Dobell: Diverse Races of Entamoeba Histolytica Distinguishable by the Dimensions of Their Cysts, Parasitology **10**: 320 (April 18) 1918.

* From the Kingston Avenue Hospital for Contagious Diseases, Department of Health, City of New York.

1. Sclavo, quoted by Park, W. H.: Forchheimer's Therapeusis of Internal Diseases, **2**: 352.

2. Marchoux, E.: Serum Anticharbonneux, Compt. rend. Soc. de biol. **2**: 710, 1895.

3. Regan, J. C., and Regan, C.: Am. J. M. Sc. **157**: 782 (June) 1919.

lesion. Thirty c.c. of antianthrax serum were also injected intramuscularly into the buttocks. That night the temperature rose to 102 and the pulse to 110, evidently owing to a serum reaction.

Jan. 1, 1919, the patient was somewhat improved. There was a slight extension of the edema in the tissue surrounding the pustule, and there was a rather profuse discharge of serous fluid from the vesicles, but the patient was brighter and decidedly rational. The local injection of 10 c.c. of antianthrax serum and 30 c.c. intramuscularly was repeated.

The morning of January 2, the temperature had fallen to normal and the patient was greatly improved. He was sitting up and stated that he felt very much better. The pustule was drying up, both the red inflammatory areola and the white zone having disappeared. The centered eschar appeared depressed, the vesicles had almost dried up and the surrounding edema was greatly reduced in degree and in extent, the patient being able to open his eye. The lymphatic glands at the angle of the jaw were definitely enlarged. As the lesion had so much improved, no further injection of serum was given, the lesion being merely covered by a wet dressing of antianthrax serum.

January 3, the improvement was progressive and marked. The central eschar was beginning to loosen up at the margins, where it could be lifted off from the underlying tissues, but was intimately attached at the center of the lesion. The surface beneath presented the appearance of healthy granulations. The pustule was rapidly drying up, and the surrounding edema had practically disappeared. The cervical glands at the angle of the jaw had swollen to the size of a small marble. An injection of 10 c.c. of serum was made into the region of these enlarged glands. Cultures were again taken from the lesion.

January 4, the patient's condition was very good. He was then up and around. The pustule was reduced almost to half its original size, consisting only of the small, black eschar. The swelling of the glands had greatly diminished. The temperature continued normal.

January 17, the wound was almost healed. There was a small, dark, thin crust over its central portion. The crust was intimately attached by an elastic and fibrous pedicle to the subcutaneous tissues beneath, and had the appearance of a piece of burnt leather. The glands at the angle of the jaw were still slightly enlarged.

January 19, the crust was removed. The base of the pustule was touched up with tincture of iodin, and the patient was discharged, evidently entirely recovered.

February 25, the patient was seen again. He was in very good health, and there was no evidence of any detrimental effect due to the recent attack. At the site of the pustule there remained only a small, circular scar, somewhat depressed below the surrounding skin.

Pathologic and Bacteriologic Findings.—Blood counts revealed: December 31: total leukocytes, 16,400; polymorphonuclears, 76 per cent.; lymphocytes, 22 per cent.; transitionals, 2 per cent. January 1: total leukocytes, 15,000; polymorphonuclears, 78 per cent.; lymphocytes, 19 per cent.; mononuclears, 2 per cent.; eosinophils, 1 per cent. Blood cultures were taken December 30 and 31, and both remained sterile. Smears made from the pustule, December 30, revealed pus cells and a rather large number of bacilli, gram-positive, long, square at the end and rough in outline. Cultures on agar plate in twenty-four hours showed two types of colonies, several being rather large, from 4 to 5 mm. in diameter, dry and opaque, and of whitish color with scalloped borders; and the others more numerous, smaller, from 1 to 2 mm. in diameter and grayish color. On microscopical examination the smaller colonies showed staphylococci. The larger colonies were found to be composed of gram-positive bacilli, single and in chains, very similar to those found in the direct smears. Hanging drop showed the bacillus to be nonmotile.

The large colonies, evidently anthrax, were transplanted to plain agar for further study and for animal inoculation. These transplants were examined two days later and revealed the same dry, opaque colonies with fringing projections so common in anthrax. On low magnification the colonies resembled a head of hair. The same gram-positive bacillus, previously noted, was found on smear, this time in pure culture. After several days later smears showed spores of an elliptical shape, one in each bacillus.

Animal Inoculation.—An emulsion was made in broth of the pure growth obtained. Then 10 drops of this emulsion were injected into a mouse at the root of the tail. The animal died suddenly twenty-one hours later, having been apparently in fair condition in the interval.

Smears from the site of inoculation and the internal organs showed the same large gram-positive bacillus. Likewise cultures presented typical colony characteristics and showed the anthrax bacillus on smear.

January 3, a culture was again taken from the lesion. It showed no anthrax bacilli. Only staphylococci were found. On the 9th the same procedure was repeated with the same result.

CONCLUSIONS

1. The local measures now used in the therapy of anthrax, such as excision, cauterization, injection of germicidal solutions into the immediate region of the pustule, are all objectionable either in that they cause extensive scar formation with subsequent disfigurement, or are apt to produce toxic or poisonous symptoms.

2. The injection of antianthrax serum[4] into the tissues surrounding the pustule, while possessing none of the disadvantages of the previous methods of local treatment, has a very rapid and complete effect on the pustule, not only in arresting its further development, but also in producing a subsidence of all local inflammatory symptoms.

3. The injection is made with an antitoxin needle and syringe, the needle being inserted just outside the margin of the lesion and directed toward the subcutaneous tissues at the base of the eschar. The needle may have to be introduced at three points in order to encircle the pustule. The serum is introduced very slowly, the dosage varying from 10 to 15 c.c. It was administered once daily till the local process was controlled, usually two or three injections being sufficient.

4. Local measures must also be accompanied by suitable general treatment; hence serum should also be given either intramuscularly or intravenously.

5. Local treatment in order to effect a cure must anticipate the onset of an anthrax septicemia.

4. The antiserum used was furnished on request by the chief of the Bureau of Animal Industry, Department of Agriculture, Washington, D. C. I wish to express my thanks for the cooperation of this bureau and its promptness in sending the antiserum.

Against Unethical Advertising.—The *Gazetta degli Ospedali* relates that the Ordine dei Medici of Palermo, Italy, recently passed resolutions to the effect that the notices published by physicians in the daily papers must be of uniform style and bear the heading "Notice Approved by the Ordine dei Medici. Also that a placard denouncing blatant advertising—the placard to be supplied by the organization—should be displayed in physicians' offices, sanatoriums, etc., and also in drug stores, railroad stations and cars and in hotels. A special permanent committee was also appointed, to comprise eleven members, whose task is to watch over the enforcement of these regulations and of others that may be adopted, aiming to secure the cooperation of the municipal authorities to combat abuses, and possibly secure the revocation of the license to practice in case of flagrant offenses. The funds for the purposes outlined are to be collected from those specially interested. The committee will seek by circulars, etc., to educate the public to the moral and material importance of this campaign against "indecorous advertising."

SOME CLINICAL OBSERVATIONS ON THE INFLUENZA EPIDEMIC AT CAMP UPTON

FROM SEPT. 13 TO DEC. 1, 1918

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It is not our purpose, in offering this brief contribution, to analyze the epidemic as seen at Camp Upton in its many complex relations, epidemiologic, etiologic, bacteriologic, pathologic and clinical. It would be duplication and reduplication to add another such report to the many admirable ones that have already appeared in the journals. The disease at Camp Upton resembled closely the disease in other camps, being part of a general pandemic, sweeping widely and rapidly, and varying only in detail in camps similarly constituted. The bacteriology and etiology of the disease were carefully studied at Camp Upton, but the study yielded no conclusions of value. But we desire to present the basic clinical statistics for record, to make a few comments thereon, and in particular to describe in more detail than we have seen described the criteria and methods of diagnosis of the secondary bronchopneumonia following influenza.

ORIGIN AND NATURE OF EPIDEMIC

The epidemic of influenza was imported into Camp Upton, N. Y., directly from Camp Devens, Mass., by the transfer of troops bound overseas. It began abruptly on Sept. 13, 1918, with the admission to the base hospital of thirty-eight cases. Thereafter it increased rapidly, reached its apex, October 4, with the admission of 483 cases, then declined abruptly until October 22, when only eleven new cases were admitted. The primary epidemic covered a period of forty days (from September 13 to October 22, inclusive), with the admission to hospital of 6,131 cases.

Following the primary epidemic, cases of true influenza continued to appear irregularly for a considerable period, but in moderate number only. We regarded cases occurring between October 23 and the end of November as constituting the late or secondary epidemic. There was a total of 816 admissions in this period, contributed chiefly by new arrivals in camp or by groups of individuals from organizations previously protected by successful quarantine.

After November, cases of undoubted influenza became more and more rare, but cases of infectious tonsillitis and sore throat more frequent. So frequent, indeed, were such cases that they constituted a mild epidemic which has continued to the present time (April 1, 1919). The differentiation of these cases from true influenza was often difficult or even impossible, individually. But when taken as a group or as a whole it seemed clear that they were not simple influenza but a peculiar form of infectious tonsillitis or sore throat.

Their general features resembled closely those of influenza—marked infectiousness, abrupt onset, chilliness, high temperature, headache and backache, flushed face, injected and glassy conjunctivae, cough and throat symptoms. The throat showed congestion, redness, sometimes slight edema of the uvula, and in the majority of cases special involvement of the tonsils. These were usually congested, swollen in varying degree, and in particular smeared over with one or more patches of a very thin, delicate membrane which was readily removed by swab. Occasionally the membrane was extensive, thick, dense and adherent. Diphtheria and Vincent's disease could be excluded by bacteriologic examination. Infrequently, a true follicular tonsillitis was exhibited. Rarely, peritonsillar abscess developed. In many instances on casual and first examination the tonsils did not appear to be specially affected beyond sharing the congestion of the throat in general. But repeated and exact examination with strong light usually convinced one that the tonsils were specially involved and most frequently exhibited some grade, if only slight, of the membranous deposit above described. Many doubtful and atypical cases were observed. Bronchopneumonia and empyema were the chief complications but occurred far less frequently than with true influenza. No organism was found that could be surely incriminated as the cause of this throat infection. The *Streptococcus hemolyticus* was recovered in a considerable proportion of the cases but was not constant.

We have evidence of the prevalence of a similar throat affection at such widely separated points as Boston and Buffalo and many other places, and we would direct attention to this affection in relation to late statistics of the epidemic of influenza, as tending to vitiate their value. In consequence we have drawn a line at November 30 in terminating the period of the secondary epidemic of influenza at Camp Upton, regarding all diagnoses of influenza thereafter as unreliable and generally confused with the throat affection prevailing. Indeed, it would be safer to terminate the epidemic of influenza earlier for the purpose of statistical study.

The clinical characteristics of the influenza and its complications as seen at Camp Upton were the counterpart of the disease as seen at Camps Dix, Mills, Merritt and other camps in the northeastern section of the United States, as acknowledged by representatives from these camps who visited our wards during the height of the epidemic. Probably the disease was more or less similar everywhere, but varied in special features and intensity in different places, as would be expected. The disease at Camp Upton was equal in intensity and virulence to that at the other neighboring camps mentioned. The impression received in going through our pneumonia wards (holding at one time about 900 patients) was one of horror at the frightfulness of the sight of the hopelessly sick and dying and at the magnitude of the catastrophe that had stricken wholesale the young soldiers prepared to face another enemy but helpless before this insidious one. The memory of this sight will haunt for life the minds of those who saw it.

STATISTICAL TABLES AND CHARTS

The accompanying tables and graphic charts based on these tables give the main statistical data of the epidemic of influenza at Camp Upton. The figures are all from official sources. The figures for influenza

are for patients actually admitted to hospital. In addition there were numerous cases of influenza of milder type in which the patients were not admitted to hospital and were not enumerated and in consequence are not included in these statistics. Their number is unknown but believed to be large. The figures for pneumonia are as accurate as diagnostic criteria permitted, and special precautions were taken to secure the complete reporting and enumerating of all cases of pneumonia. The figures for deaths are absolutely accurate. A special statistical office was maintained by the medical service from the beginning of the epidemic to keep full and accurate records, and in consequence we believe that our figures from the base hospital are exceptionally complete and reliable.

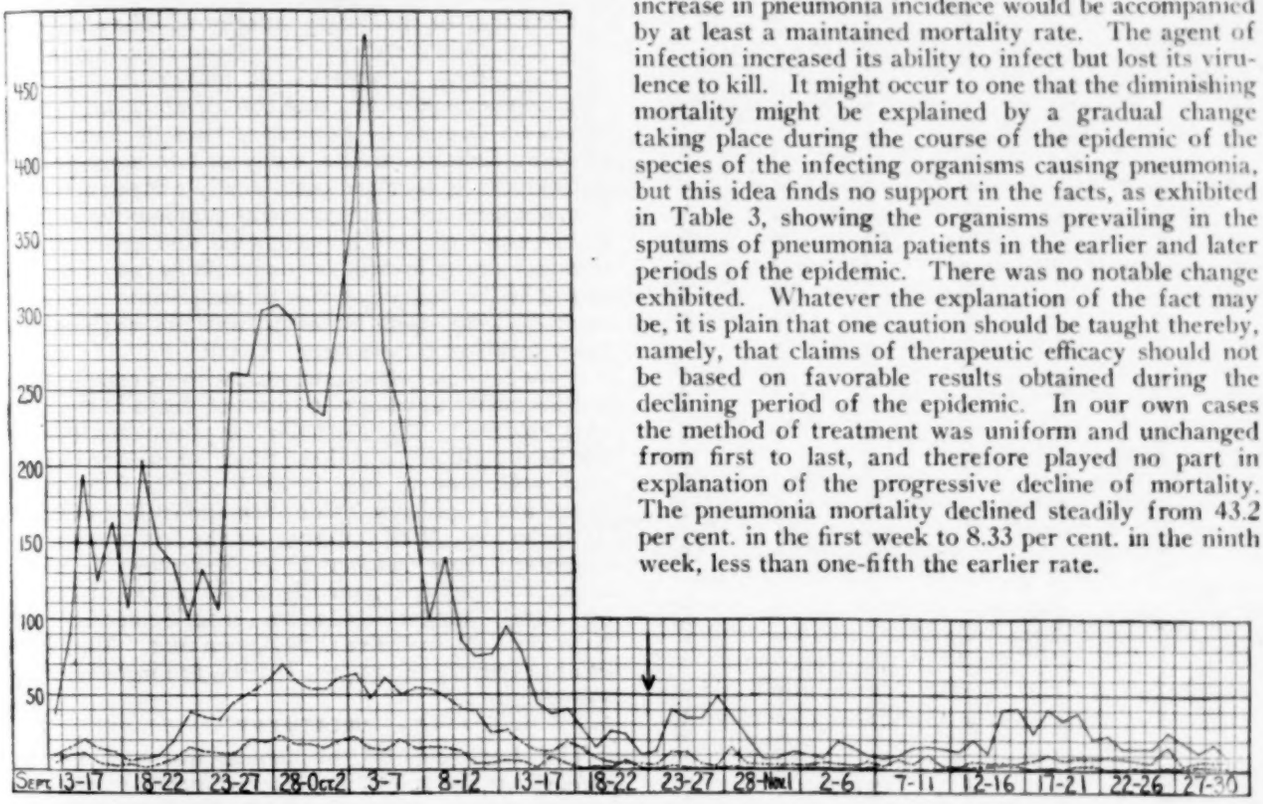

Chart 1 (illustrating Table 1).—Number of admissions for influenza by day, number of each day's cases of influenza in which pneumonia later developed, and number of each day's cases of influenza in which the patients ultimately died (up to Jan. 1, 1919): solid line, influenza; line of dots and dashes, pneumonia; broken line, deaths; the arrow indicates end of primary epidemic.

In compiling the tables, giving figures day by day, we have arranged the columns so as to show, by reading laterally, later complications (pneumonia, empyema) and ultimate deaths for each separate day's admissions of influenza patients, followed up to Jan. 1, 1919. This arrangement permits an accurate comparison of the later course and the end-results of each separate day's group of cases of influenza throughout the epidemic and followed over a period of almost two and a half months subsequent to the termination of the primary epidemic. So far as we have observed, this method of statistical report has not been employed heretofore in the published reports on the epidemic from other military camps. Prolonging the period of observation manifestly increases the mortality figures by including late ultimate deaths.

A fact of interest is brought out strikingly by reducing to graphic form in Chart 2 the figures of Table 2, showing the percentage of influenza cases that developed secondary pneumonia and the percentage of such secondary pneumonia that resulted in ultimate death, progressively, week by week, throughout the epidemic. It is thus seen that with the course of the epidemic there took place a progressive increase in the percentage of pneumonia incidence and at the same time a progressive decline in the percentage of pneumonia mortality. It would be interesting to know whether a similar relation was shown in other camps. It would also be of interest to know the explanation of these conflicting tendencies. Why did a steadily increasing proportion of influenza cases develop secondary pneumonia, and why did this increasing pneumonia incidence result in a decreasing pneumonia mortality? One might reasonably suppose that a tendency to increase in pneumonia incidence would be accompanied by at least a maintained mortality rate. The agent of infection increased its ability to infect but lost its virulence to kill. It might occur to one that the diminishing mortality might be explained by a gradual change taking place during the course of the epidemic of the species of the infecting organisms causing pneumonia, but this idea finds no support in the facts, as exhibited in Table 3, showing the organisms prevailing in the sputums of pneumonia patients in the earlier and later periods of the epidemic. There was no notable change exhibited. Whatever the explanation of the fact may be, it is plain that one caution should be taught thereby, namely, that claims of therapeutic efficacy should not be based on favorable results obtained during the declining period of the epidemic. In our own cases the method of treatment was uniform and unchanged from first to last, and therefore played no part in explanation of the progressive decline of mortality. The pneumonia mortality declined steadily from 43.2 per cent. in the first week to 8.33 per cent. in the ninth week, less than one-fifth the earlier rate.

A few clinical features of the epidemic may be mentioned specifically:

The treatment of influenza was purely symptomatic. No vaccines or serums were used either for prophylaxis or treatment.

The mortality from influenza (all caused by secondary pneumonia and its complications and sequelae), calculated up to Jan. 1, 1919, was: for the period of the primary epidemic (from September 13 to October 22, inclusive), 6.58 per cent; for the period of the late or secondary epidemic (from October 23 to November 30, inclusive), 4.18 per cent.; for the whole period of the primary and secondary epidemics (from September 13 to November 30, inclusive), 6.30 per cent.

TYPE OF DISEASE

There was only one type of influenza seen, namely, the respiratory type. The nervous, the gastro-intes-

TABLE 1.—DAILY ADMISSIONS OF INFLUENZA PATIENTS, NUMBER BY DAYS OF THOSE LATER DEVELOPING PNEUMONIA, PNEUMONIA FOLLOWED BY EMPYEMA, AND ULTIMATELY DYING (CALCULATED UP TO JAN. 1, 1919) AND NUMBER OF DEATHS LISTED BY DAY OF DEATH *

		No. of Influenza Patients			
	Admitted by Days	Later Developing Pneumonia	Later Developing Pneumonia Followed by Empyema	Ultimately Dying (All from Pneumonia)	Deaths Listed by Day of Death
Sept. 13	38	10	1	4	0
14	86	14	1	9	0
15	193	21	0	11	0
16	124	14	1	4	0
17	161	13	0	3	0
18	107	7	1	5	1
19	201	9	0	2	0
20	149	11	0	5	5
21	138	21	0	9	5
22	101	40	1	15	5
23	122	37	0	13	3
24	105	35	1	12	9
25	202	47	0	12	7
26	260	51	0	20	8
27	302	58	0	19	6
28	306	70	0	23	14
29	286	59	1	17	13
30	239	54	0	17	14
Oct. 1	233	54	2	14	8
2	268	62	1	20	14
3	363	64	0	22	16
4	483	48	0	15	21
5	274	62	1	14	22
6	241	49	0	21	17
7	157	56	0	15	11
8	101	54	2	16	25
9	139	49	0	16	19
10	92	41	2	12	18
11	76	39	0	3	24
12	77	24	1	4	27
13	96	27	1	7	13
14	79	19	0	6	9
15	44	13	1	1	10
16	36	12	0	9	12
17	39	19	0	4	10
18	27	13	0	0	5
19	14	8	0	1	6
20	27	4	0	1	5
21	24	4	0	3	3
22	11	3	0	0	2
23	13	3	0	0	5
24	40	12	0	2	2
25	35	12	0	1	2
26	35	4	0	0	4
27	49	1	0	0	0
28	35	15	0	1	3
29	17	4	0	1	1
30	8	2	0	0	0
31	8	3	0	1	0
Nov. 1	12	3	0	0	1
2	10	2	0	1	0
3	7	5	0	1	0
4	19	3	0	0	0
5	10	2	0	0	1
6	10	7	0	1	0
7	8	1	0	0	0
8	10	8	0	0	2
9	16	4	1	0	2
10	17	10	1	0	0
11	15	2	1	0	1
12	13	1	0	0	1
13	21	6	0	1	0
14	11	5	0	2	0
15	40	5	0	4	0
16	42	5	1	3	0
17	25	7	0	0	0
18	40	10	1	1	1
19	22	7	0	0	0
20	38	8	0	2	2
21	21	8	1	2	1
22	23	9	0	0	1
23	16	8	0	0	1
24	16	7	0	1	2
25	16	6	0	0	0
26	26	15	1	1	0
27	19	2	0	1	4
28	11	6	0	3	1
29	18	7	0	2	3
30	8	6	2	2	1
Sept. 13-Nov. 30, inclusive	6,947	1,526	27	438	429
Sept. 13-Sept. 30, inclusive	3,200	571	7	200	90
Oct. 1-Oct. 31, inclusive	3,171	780	11	210	314
Nov. 1-Nov. 30, inclusive	576	175	9	28	25
Sept. 13-Oct. 22, inclusive (period of primary epidemic)	6,131	1,295	18	404	387
Oct. 23-Nov. 30, inclusive (period of secondary epidemic)	816	231	9	34	42

* The last column represents the number of deaths listed by day of death, irrespective of the day of origin of the influenza resulting in death. The second, third and fourth columns should be read with reference to the first column, being arranged to show the number of cases of influenza of corresponding date that resulted at any subsequent date, up to Jan. 1, 1919, in pneumonia, pneumonia and empyema, or death. This arrangement indicates, by reading the columns crosswise, the subsequent complications and outcome of each day's admissions of influenza patients. It will be observed that this method of presenting the statistics of the epidemic differs from the method commonly followed, namely, the mere listing of influenza, pneumonia and deaths by date of occurrence. The method here used appears to be the logical method, pursuing daily admissions of influenza through their entire subsequent course and complications to their final outcome by cure or death. It is of little statistical value to know merely how many cases of pneumonia or death happened to fall on certain days in the epidemic, but it is of great statistical value to pursue daily admissions of influenza patients through their subsequent course and thus to establish the comparative degree of severity of the epidemic at different stages in its progress.

tinal, and the febrile types, commonly described in previous epidemics, were conspicuous by their absence as special types. Nervous manifestations were prominent but always were associated with respiratory symptoms. Meningitis occurred in only one case, secondary to pneumonia (pneumococcus Type IV). Meningismus simulating meningitis occurred in a few cases, always in association with pneumonia except in one uncomplicated case of influenza. The cell count of the spinal fluid in meningismus was normal. Severe gastro-intestinal symptoms were infrequent or rare. In only occasional cases was there marked abdominal pain, in a few instances associated definitely with acute or subacute appendicitis. Taking the cases as a whole, we found that complications were infrequent with the notable exception of the one predominant complication, pneumonia, and its sequelae.

Recurrent or secondary attacks of influenza were very rare, most instances of supposed recurrent attacks in reality being attacks of the previously mentioned infectious tonsillitis and sore throat, which led to many errors of diagnosis. Secondary rises of temperature of short duration, within a day or two after primary defervescence, occurred occasionally without complication, but were always regarded as presumptive evidence of the onset of bronchopneumonia and this presumption was almost invariably confirmed by the subsequent course if the secondary rise of temperature continued beyond twenty-four hours or was not explained by other manifest complication.

Secondary bronchopneumonia, with its complications and sequelae, was the sole cause of death in the influenza epidemic. The mortality for pneumonia (including its complications and sequelae) secondary to influenza, calculated to Jan. 1, 1919, was as follows: for the primary epidemic (from September 13 to October 22, inclusive), 31.19 per cent; for the late or secondary epidemic (from October 23 to November 30, inclusive), 14.71 per cent; for the whole period of the primary and secondary epidemics (from September 13 to November 30, inclusive), 28.70 per cent. All delayed deaths occurring up to Jan. 1, 1919, are included in the above figures.

TREATMENT

The treatment of pneumonia was not changed throughout the epidemic. No vaccines were used and serums only in a few cases in which the sputum typing revealed infection with pneumococcus Type I.

All patients with pneumonia from the beginning to the end of the epidemic (and since that time up to the present) were given tincture of digitalis in substantial doses, larger than commonly employed. The usual single dose was a dram or a dram and a half, repeated three times daily until from five to six doses were given within a period of from thirty to thirty-six hours, the medication being started as soon as the diagnosis of pneumonia was positive, probable or even

likely. The patients received, therefore, from 300 to 500 minims, average about 350 or 400 minims, of the tincture, representing one-tenth strength of the crude drug. As a result of this large dosage we saw very few instances of bradycardia below 60 per minute or of recognizable arrhythmia, though caution was observed in following the pulse of every patient. Having employed these large doses of digitalis in the treatment of approximately 2,000 cases of pneumonia of different types during the past seven months, we feel justified from our experience in emphasizing the conviction that they are not dangerous or likely to produce serious disturbance of the heart, at least in the class of patients that we have treated, that is, selected young men of military age, generally with sound vital organs. On the contrary, our belief is firm that these large doses of digitalis are well tolerated in pneumonia, and that they slow and strengthen the heart action and save lives. When death impends, the pulse usually maintains a good quality almost to the end. Whether patients of more advanced years with impaired vital organs would respond so favorably to similar treatment we are not justified in assuming, but observing proper caution, we would have little hesitation in treating them similarly. In addition to digitalis the treatment employed was symptomatic.

DIAGNOSIS OF PNEUMONIA

As previously stated, all deaths following influenza were attributable to secondary pneumonia and its complications and sequelae (empyema, pericarditis, meningitis, etc.). Pneumonia, therefore, was the one danger that threatened life. As pneumonia developed in over one fifth of all cases of influenza, and killed almost one third of those it attacked, its early recognition was imperative if therapy was to possess any value.

TABLE 2.—PERCENTAGE OF PATIENTS ADMITTED FOR PRIMARY INFLUENZA WHO SUBSEQUENTLY DEVELOPED PNEUMONIA, COMPARED WITH THE PERCENTAGE OF PNEUMONIA MORTALITY AND GROSS INFLUENZA MORTALITY RESULTING FROM CORRESPONDING GROUPS OF CASES; ABSTRACTED FROM TABLE 1*

Week	No. of Influenza Patients Admitted	Influenza Patients Later Developing Pneumonia		Ultimate Deaths (All from Pneumonia)	Percentage Resulting in Ultimate Death	
		Number	Per Cent.		Pneumonia	Influenza
Sept. 13-19	910	88	9.6	38	43.2	4.17
Sept. 20-26	1,147	242	21.1	86	35.5	7.5
Sept. 27-Oct. 3	2,037	421	20.66	132	31.35	6.48
Oct. 4-10	1,487	359	24.14	109	30.64	7.33
Oct. 11-17	447	153	34.23	34	22.22	7.6
Oct. 18-24	156	47	30.13	7	14.9	4.5
Oct. 25-31	187	41	21.92	4	9.75	2.14
Nov. 1-7	82	23	28.05	3	13.04	3.65
Nov. 8-14	103	36	34.95	3	8.33	2.91
Nov. 15-21	238	50	21.0	12	24.0	5.04
Nov. 22-28	127	58	41.73	6	11.32	4.72
Nov. 29-30 (2 days)	26	13	50.0	4	30.76	15.38
Sept. 13-Nov. 30, inclusive	6,947	1,526	21.96	488	28.70	6.30
Sept. 13-Oct. 22, inclusive (period of primary epidemic)	6,131	1,295	21.12	404	31.19	6.58
Oct. 23-Nov. 30, inclusive (period of secondary epidemic)	816	231	28.30	34	14.71	4.16

*Note the general tendency, with the progress of the epidemic for the percentage of pneumonia incidence to increase and of pneumonia and influenza mortality to decrease.

The early diagnosis of the kind of bronchopneumonia seen during the epidemic was a severe test of the training, judgment and patience of those responsible. The criteria brought from civil practice had to be unlearned and other standards adopted. To be sure, cases with outspoken physical signs and symptoms did occur, but they were conspicuous by their infrequency. The patients in general presented few of the usual symptoms and signs of frank pneumonia. Wretchedly sick and prostrated from the primary influenza, they either progressed continuously and insidiously from influenza into pneumonia, or after the interval of a day or perhaps a few days of convalescence from influenza, a recurrence of high temperature and general symptoms of illness occurred and pneumonia was

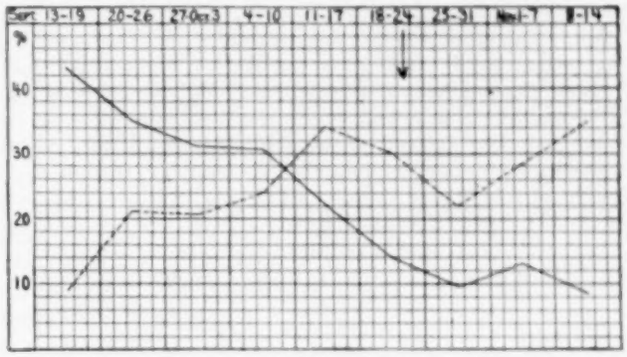

Chart 2 (illustrating Table 2).—Percentage of cases, week by week, admitted for primary influenza, in which cases pneumonia subsequently developed, compared with the percentage of pneumonia mortality from the corresponding groups of cases: broken line, percentage of influenza patients developing pneumonia; solid line, percentage of pneumonia cases resulting in death; the arrow indicates end of primary epidemic, Oct. 22, 1918.

established. With the absence or paucity of physical signs in the chest, pneumonia was suspected or diagnosed on the basis of this suggestive order of events: A high or irregular temperature continued over more than the usual three or four days of influenza generally indicated pneumonia; a high temperature that recurred and continued for more than one day after defervescence from influenza also usually meant pneumonia, unless clearly explained by other known complications. We learned to be guided to the diagnosis of pneumonia by the appearance of the temperature chart and this guide seldom led astray.

The patient looked sick and suggested a serious condition. His pulse and respiration rates were low relative to temperature and offered not much help in diagnosis. The patient had no grunting or stertorous respiration. He breathed quietly, softly. He had no pain in the chest or it was slight. His nostrils did not dilate in breathing, and he had no telltale herpes about the lips or face. His face was often cyanotic, sometimes ashy, sometimes just pinched looking. He expressed no pain or suffering. If his mind was clear he expressed a sense of euphoria, or of unnatural unrealization of his condition, which in particular marked the advanced stages of the disease. There was a striking tendency toward mental hebetude, drowsiness, wandering and delirium. All of these mental features increased with the progress of the disease. The leukocyte count was usually low, below 10,000, and failed as a guide.

In making the early diagnosis of pneumonia, then, we were guided first by the criteria above described, of temperature, general appearance and condition in relation to preceding influenza.

The physical signs of pneumonia in the earlier stages were either lacking, slight or equivocal. This cannot be emphasized too strongly and especially to civil practitioners, who have not had the exceptional opportunity offered in the military hospitals of studying this

type of pneumonia in hundreds and thousands of cases. Nor have we seen this fact sufficiently presented, although usually referred to, in the reports on the epidemic published in the journals from the great military hospitals and camps.

In examining the chest for physical signs of pneumonia we learned to save time and patient by omitting percussion or reserving it to the last. It was the most unreliable of all signs. We proceeded directly to a hasty auscultation of the vocal fremitus of the back of the chest and found this gave the most constant evidence of localization, usually by mere intensification of normal vocal fremitus. If a distinct bronchial or nasal quality were added to the intensified vocal fremitus, which was the exception in the early stages, the diagnosis was fairly secure.

Our next procedure was to auscultate the forced breathing sounds of the entire back of the chest or that portion only in which localization of increased vocal fremitus had been found. Bronchial or bronchovesicular breathing was usually absent or perhaps suggestive but doubtful. In the exceptional case only was it unequivocal. The rule was to find only some degree of intensification of normal breathing, which left one in doubt as to its significance. Later true bronchial breathing was usually found, but seldom in proportion to the involvement of the lungs.

TABLE 3.—RESULT OF EXAMINATION OF SPUTUMS IN PNEUMONIA CASES

Organisms Found by the Avery Cultural Method *	Period of Primary Epidemic, Sept. 13-Oct. 22, Inclusive		Period of Secondary Epidemic, Oct. 23-Nov. 30, Inclusive		Period of Entire Epidemic, Sept. 13-Nov. 30, Inclusive	
	No.	%	No.	%	No.	%
Pneumococcus Type I	16	2.0	2	1.4	18	1.9
Pneumococcus Type II	26	3.4	0	0.0	26	2.8
Pneumococcus Type II (atypical)	38	4.9	4	2.8	42	4.6
Pneumococcus Type III	62	8.0	8	5.5	70	7.7
Pneumococcus Type IV	449	58.6	93	64.1	542	59.5
Penumococcus Type IV and streptococcus hemolliticus	11	1.4	10	6.9	21	2.3
Streptococcus hemoliticus	82	10.7	8	5.5	90	9.9
Streptococcus muc.-cap.	3	0.4	0	0.0	3	0.3
Streptococcus nonhem.	55	7.2	10	6.9	65	7.1
B. influenzae †	12	1.5	5	3.4	17	1.8
Staphylococcus	12	1.5	5	3.4	17	1.8
Total	766		145		911	

* Where two or more organisms were found only the more virulent one is included in the table.

† Bacillus influenzae was found with greater frequency as the technic was improved and as greater care was taken in searching for it. Except in the cases given in the table it was always associated with other organisms, notably pneumococcus Type IV. Toward the end of the epidemic it was recovered in 38 per cent. of cases.

Next we asked the patient to cough deeply while we auscultated the area of suspicion. This often but not always brought out a localized cluster of fine râles. In some cases such sharply localized groups of râles were the only sign at a single examination.

The three signs of localization were, then, in order of importance and frequency: (1) increased vocal transmission, with or without bronchial quality; (2) clustered fine râles, especially excited by coughing; (3) intensification of normal breath sounds, with or without the addition of bronchial or bronchovesicular quality. The degree of prominence of any one of these signs and the degree of combination of more than one of them in the same area determined the degree of value to be attached to the signs as evidence of pneumonia. It was remarkable how often all signs were absent at a single examination or how often some single sign only was present in such minor degree as to be unconvincing of its significance. But by experience we learned how to piece together the general symptoms and the minor localizing signs into a probable or fairly secure diagnosis, to be confirmed by subsequent examinations in the course of the disease or by the evidence of the roentgen ray.

A point of special interest in the physical examination, which occurred frequently and which we have not seen mentioned, was the absence of bronchial vocal fremitus or bronchial breath sounds during a careful examination covering several minutes, and then the abrupt appearance of such signs even in marked degree, perhaps during a few breaths only, followed again by their disappearance. With experience we found that we could sometimes provoke such abrupt changes, by one maneuver or another, such as turning the patient from side to side or placing him upright or by a deep breath or a cough. In doubtful cases we never omitted the trial of these maneuvers and were frequently rewarded for the effort.

Percussion dulness, as a localizing sign, was of very slight value, seldom if ever being a guide in early diagnosis and being notably unreliable as a guide to the extent of lung involvement in the advanced stages, as tested by necropsy findings. While the same was true more or less for all signs, as tested at necropsy, this held true for percussion evidence in a special degree. The reason for this was made plain at necropsy by the striking degree of acute compensatory emphysema of the lungs, both in the involved and uninvolved portions. Instead of transmitting a dull note, a consolidation often actually misled by yielding hyperresonance on percussion.

Palpation seldom offered any evidence of particular value, especially when it was most needed for early diagnosis.

In looking for evidence of pneumonia in its early stages, it was useless to examine the apexes of the lungs or the front of the chest. The early localization was never found in those portions, but almost without exception near the roots of the lungs along the inner margin of the back and extending therefrom in other directions, especially downward into the bases. Much time in examination is saved by a knowledge of this fact. Early roentgen-ray examination of patients confirmed fully this almost unbroken rule.

As to the side of the chest most often involved in the early process, no striking difference was observed either by general or by roentgen-ray examination, though possibly the right side preponderated slightly.

The roentgen ray was used for aid or confirmation in 566 cases, always in doubtful cases. The evidence that it afforded proved reliable in the main, and its assistance was of the greatest value. Exceptionally, it failed to accord with definite physical signs and showed a negative chest in a positive pneumonia. The reverse was more often true, the roentgen ray showing a consolidation in the absence of physical signs.

Among the 1,526 cases of pneumonia there developed, up to Jan. 1, 1919, only twenty-seven instances of empyema, making an empyema incidence of 1.76 per cent., calculated for pneumonia. Eight of the twenty-seven patients died, six in the active period of pneumonia, two at a later period. Recently we have seen empyema develop six months after influenza pneumonia, the necropsy showing unilateral fibrosis and contraction of the lung, purulent bronchitis and small multiple abscesses.

During the winter months following the epidemic we observed in patients admitted to hospital few late complications and sequelae that could be attributed to preceding influenza and pneumonia. This observation was rather surprising, and contrary to expectation. In a few instances we have seen chronic bronchitis with cough and râles persist for fully six months after pneumonia, without much impairment of general health. Such signs naturally suggest a suspicion of tuberculosis, but this was apparently excluded.

The first fifty fatal cases were subjected to necropsy without selection and thereafter only occasional cases were brought to necropsy for special reasons. The findings were the same as reported from other camps, in general extensive, often confluent, bronchopneumonia with marked compensatory acute emphysema.

The bacteriologic and pathologic studies of the disease disclosed no facts of peculiar importance and determined nothing as to the real cause of the disease.

SUMMARY

1. The epidemic of influenza at Camp Upton in its clinical aspect and severity was the counterpart of the disease as reported from the other great camps in the northeastern section of the United States.

2. Secondary bronchopneumonia was the one predominant complication. Bronchopneumonia with its complications, chiefly empyema, was the sole cause of death. Empyema was encountered in only 1.76 per cent. of pneumonia cases.

3. The statistical tables and graphic charts are arranged to show, by reading the tables crosswise and the charts up and down, the ultimate outcome (complications and deaths) that resulted from the original daily admissions of influenza, calculated up to Jan. 1, 1919, irrespective of the date on which the complications or deaths happened to fall. This arrangement portrays the relative severity of the disease at all stages of its progress.

4. Chart 2, based on Table 2, shows the curves of pneumonia incidence rate compared with pneumonia mortality rate, expressed in percentage, resulting from admissions of primary influenza week by week through the epidemic. This chart brings out visually the interesting and unexplained fact that the pneumonia incidence rate increased while the pneumonia mortality rate decreased progressively and strikingly from the start throughout the course of the epidemic. This fact, if confirmed in other military camps, tends to invalidate claims of special therapeutic efficacy based on results obtained after the early part of the epidemic, during a period of natural decline of mortality.

5. The use of digitalis in large doses at the beginning of pneumonia, employed as routine practice, resulted in no observed harmful effects in any case, and proved of distinct benefit. The pulse remained slow and regular, even in fatal cases, to the end.

6. The early diagnosis of the type of bronchopneumonia secondary to influenza seldom rested on clear physical signs in the chest. The physical signs were evasive and slight and needed to be carefully sought for and combined with the other clinical data or the roentgen-ray findings in determining an early diagnosis. The criteria for diagnosis are described in some detail.

7. Toward the end of the epidemic of influenza there was added a new affection, occurring in epidemic form, that symptomically closely resembled influenza, needed careful differentiation, and led to much confusion and error in diagnosis—a peculiar form of infectious tonsillitis, characterized particularly by swelling of the tonsils and a membranous deposit on them. This affection has been the chief cause of admission to hospital from late November to the present time (April 1, 1919). A similar affection prevails widely in other places and is masquerading in vital statistics under the guise of influenza.

HYPOPHYSIAL DYSTROPHY IN HYDROCEPHALUS

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CHICAGO

Besides primary disturbances of the hypophysis itself, such as tumor, hypoplasia, etc., there are a number of intracranial conditions, either in the vicinity of the gland or more remote, that, directly or indirectly, may lead to interference with its function, resulting in the development of pituitary adiposity. Not only neighboring new growths, but also severe hydrocephalus with dilatation of the third ventricle, of whatever origin, may exert deleterious pressure on or obstruct the hypophysis and thus interfere with its normal function.

Harvey Cushing[1] remarks that secondary changes probably occur in the pituitary body in every case of increased intracranial tension, often with gross deformity and resultant functional disturbances which frequently elicit recognizable clinical manifestations. The scanty literature on the relation of hydrocephalus to the pituitary gland has been reviewed by the above named writer and in THE JOURNAL by Pollok.[2]

As an instance of conspicuous manifestations of hypophysial dystrophy in connection with a hydrops ventriculorum, the following case of a patient admitted to the Cook County Hospital, Oct. 15, 1918, may be reported:

REPORT OF CASE

History.—The girl, F. M., aged 8 years, 10 months, had always been a strong, bright child and had had a somewhat large head. When 16 months old, she is said to have weighed 36 pounds. After December, 1917, the girl often came home from school with wet clothes, being unable to hold the urine long. She drank much water and had to urinate frequently. She had, during the winter of 1917-1918, daily attacks of supra-orbital headache, sometimes accompanied by vomiting, with occasional dizziness. Her appetite grew ravenous, especially for bread. Polydipsia and polyuria lasted up to the time of admission to the hospital.

In February, 1918, her body weight, which was then 72 pounds, began rapidly to increase, and she became obese. At first irritable and "nervous," she soon became apathetic and sleepy, quite in contrast with her previous alertness, and she ceased making progress in the school. She tired very easily, and had difficulty in keeping her balance; walking became difficult, and she finally had always to be led by her mother. After the end of February, she was unable to attend school. The upper extremities became weak, trembling, awkward and ataxic. During that year she grew rapidly—"one could see her grow;" there also occurred a marked aggravation of preexisting genua valga and a striking enlargement of the head, so that it became difficult to purchase a hat large enough for her.

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1. Cushing, Harvey: The Pituitary Body and Its Disorders, 1911.
2. Pollok, L. J.: Hypopituitarism in Chronic Hydrocephalus, J. A. M. A. 64: 395 (Jan. 30) 1915.

Physical Examination.—Physical examination revealed a well developed, obese girl (Fig. 1), weighing 95 pounds, body length 135 cm., distance of lower edge of symphysis from floor 66.5 cm. There was a marked development of adipose tissue, especially on the neck, in the region of the angulus mandibulae, of the pectoralis muscles, on the lower part of the large protruding abdomen, and on the mons veneris, which was separated from the abdomen by a deep furrow. There was also around the hips and on the upper part of the thighs an excessive amount of adipose tissue. The circumference of the chest in the nipple line was 74 cm., of the abdomen in the umbilical line 83 cm., and around the trochanters 82 cm.

The general integument and mucous membranes were of a healthy color; the skin was very soft, delicate, smooth and without perspiration. The body was covered with a very fine lanugo, that on the outer aspect of the forearm being more developed. The labia majora were much developed, large and covered with dense lanugo and a few darker, longer and thicker hairs. The hair of the scalp was abundant and long. The skull was large, its horizontal circumference being 59.5 cm.; the measure from the meatus auditorius of the one side to that of the other was 39 cm. The skull in the region of the anterior fontanel was thinned, distinctly yielding on pressure, and tender.

Fig. 1. — Hydrocephalus, accompanied by hypopituitarism.

The face was very fat. The veins of the right upper lid and temple were bulging, those of the left upper lid less so. There was slight exophthalmos. The pupils were large, reacted at times sluggishly, at other times promptly. The eye fundus was normal. The hands were graceful, somewhat pudgy, very soft and smooth, the fingers being somewhat tapering. The nails of both thumbs had a normal lunula, the index fingers a hardly visible lunula, while the other fingers had no crescent at all. The hands and feet were cold. Genua valga and pedes valgi were present.

There was motor ataxia of the arms, which on some days was very pronounced, on other days demonstrable only with finer tests. The gross muscular power of the arms and legs was much reduced. There was no spasticity. The patient was able to sit freely without ataxia, but was unable to stand or walk without support, and swayed and fell if not held up. The general asthenia forced her to spend all her time in bed or on a chair. The patellar reflexes were increased, that on the right side being more pronounced. Babinski's reflex was positive. There was ankle clonus, especially on the right side. There was involuntary micturition. The Wassermann test was negative. The systolic blood pressure was 95, diastolic 65. The pulse was between 100 and 110. The intellectual faculties were much impaired, and the school learning was very deficient. On three occasions, 100, 150 and 210 gm. of glucose were given by mouth without causing glycosuria.

The roentgenographic examination (Fig. 2) revealed a greatly enlarged, shallow sella turcica and reduced clinoid processes. The stereoplates of the entire skull showed a hydrocephalus with open coronal suture and marked digitations of the frontal bone.

The girl gained 3 pounds in the first two weeks of observation (98 pounds). The reflexes were changeable, the ankle clonus often being absent. Later incontinentia alvi supervened. By the end of November, bilateral optic neuritis was found, the vision of both eyes being 20/30. The hairs on the labia majora increased somewhat in size and number. The sensorium was free, the girl friendly and kind; however, she was quiet and often languid and drowsy. During the last three months of her life she had periods of marked apathy, even torpor, when suffering from measles, otitis media suppurativa acuta and bronchopneumonia, to which she succumbed, March 2, 1919. She grew 3 cm. in height after admission to the hospital and lost in body weight during the last few weeks.

Postmortem Findings.—From the pathologic report, for which I am indebted to Dr. F. H. Stangl, resident pathologist at Cook County Hospital, the following features may be mentioned here:

The calvarium measures 3 mm. in thickness; its sutures are only fibrous. The brain is large, owing to an increased amount of ventricular fluid. The convolutions are markedly flattened. The brain is 16.1 cm. wide, 20.3 cm. long and 10.1 cm. high, and, with its contained fluid, weighs 2,190 gm. The infundibulum is 12 mm. long and kinked on itself. The hypophysis is but slightly flattened and measures 7 mm. by 11 mm. by 16 mm. Serial coronal sections of the brain reveal greatly dilated ventricles with reduction in the brain substance surrounding them. The right lateral ventricle measures 4.5 cm. transversely and 6.5 cm. vertically, the left one 3.8 and 6.5, and the third ventricle 2.0 and 2.5 cm., respectively. There is a shifting of the parts of the brain, especially of the occipital half, with resulting malposition. The aquaeductus Sylvii is entirely closed by compression, and the right hemisphere of the cerebellum has undergone decrease in size from pressure.

The internal genitalia reveal no gross changes. The body of the uterus is 3 cm. long, 1.5 cm. wide at the fundus and 0.5 cm. thick. Sections of the hypophysis stained with eosinhematoxylin have been examined microscopically by Dr. G. B. Hassin with the following result: The three portions of the organ were distinctly shown; they are surrounded by a connective tissue membrane consisting of collagen fibers with well stained oblong nuclei. The anterior or glandular part exhibited numerous acini, some of which appeared more densely stained than others. The epithelial cells of the acini or alveoles showed a large, well developed granular cytoplasm, containing an eccentric nucleus. Some epithelial cells were unusually large, exhibiting two or more nuclei. In other acini which were quite numerous the epithelial cells were very pale, homogeneous, irregular in shape, but with a distinct, well stained nucleus. Such cells often merged together forming a large colloidal mass containing several nuclei. The colloid often totally obliterated the acini, or filled up their lumina, sometimes appearing as very large diffuse masses or small globules freely scattered in the interalveolar spaces. The blood vessels were dilated and greatly congested; some were partially or totally filled with a colloid substance. There were to be seen foci of hemorrhages in the tissue of the capsule and between the latter and the glandular tissue. The pars anterior of the hypophysis was in the center of the section—isthmus-like—continuous with the posterior portion, which appeared reticular, the stroma in the area of junction showing much wider meshes than in the rest of the posterior lobe. There were to be seen a few congested capillaries and still fewer colloidal bodies.

The lateral portions between the anterior and the posterior lobes of the hypophysis (of the pars intermedia) were occupied by strikingly large cuneiform clefts or rather cystic formations lined with epithelial cells and entirely filled with colloid. The latter contained cellular masses with distinct nuclei, situated here and there, but as a rule near the margins of the cystic clefts. These two colloidal formations can be seen with the naked eye, the larger one measuring 1.5 mm. in width and 3 mm. in length. The pathologic changes can thus be summed up as subcapsular hemorrhages, excessive hyperemia and vascularization of the anterior lobe, hyaline or colloidal thrombosis and excessive amounts of colloidal acini. The findings so far give no exact idea of the presence or absence of any pathologic process that caused the hydrocephalus. Further studies

are being carried on, and a more complete report, especially of the histopathology of the brain is forthcoming, being in preparation by Dr. G. B. Hassin.

COMMENT

Certain features of the anamnesis of the case are suggestive and a part of the clinical syndrome is quite characteristic of hypophysial dystrophy. The manifestations of the latter, however, must be distinguished from those of internal hydrocephalus. The rapid development of adipositas nimia, with eunuchoid localizations, and the high tolerance for glucose, indicate constitutional, metabolic changes—such as are observed in functional deficiency of the posterior lobe of the hypophysis. The delicate skin, the lack of perspiration and the arterial hypotension likewise point to this organ. On the other hand, the abnormal increase of the size of the skull, with thinning of the region of the anterior fontanel, and the marked remissions and exacerbations of the nervous disturbances, leave no doubt about the existence of hydrocephalus internus. Its causal agency, however, cannot be ascertained clinically beyond dispute, the differential diagnosis considering an "idiopathic" hydrocephalus, or rather the exacerbation of a previous hydrops ventriculorum, and a possible distant obstructive tumor without focal manifestations.

Fig. 2.—Roentgenogram of sella turcica and clinoid processes in a case of hypopituitarism.

The presence of the hydrocephalus gives satisfactory explanation of dystrophy, through the assumption of a pressure lesion of the hypophysial apparatus, and, with the absence of optic nerve disturbances, even as late as at the time of admission, militates against the assumption of a tumor of the hypophysis itself. The radiologic findings are in accord therewith, the shallow dishlike dilatation of the entrance of the sella turcica being merely a partial manifestation of the cranial changes that are due to the general increased intracranial tension.

Cushing at first explained the pituitary deficiency in hydrocephalus as due merely to the dilatation of the third ventricle, with consequent flattening of the gland. Since the demonstration of a possible discharge of the posterior lobe secretion into the cerebrospinal fluid, he sees in the stasis of the cerebrospinal fluid an equivalent in its effect to an experimental obstruction of the stalk, or to a compression by an immediately superimposed infundibular tumor. In connection with his ideas it is noteworthy that in our case a slight flattening of the gland and kinking of the infundibulum were found postmortem, according to the report given me.

Polyuria and polydipsia, which for a time were so marked in our case, have not infrequently been noted by other authors as a temporary symptom in hypophysial dystrophy, and in a few cases a serious diabetes insipidus was the predominant feature. It also has been encountered for a period as an after-effect of surgical operations in the hypophysial region, even of simple sellar decompression (Cushing). The occurrence of polyuria observed by Schaeffer[3] in bloodless, mechanical or chemical irritations of the hypophysis, and the well established diuretic effect of the extract of the nervous lobe, combine to indicate the cause of this clinical symptom to be an increased secretion resulting from irritative conditions, such as pressure, inflammation, etc.

Thus a state of initial stimulation of the posterior lobe in our case may be assumed preceding its inhibition or obstruction. The persistence of polydipsia, however, during the period of well developed adiposity, the latter indicative of hypofunction, cannot, of course, be attributed to a simultaneous hyperfunction; it must be explained on a different basis. We may consider it merely a habit formed during the illness. Several circumstances indicate this; the excessive drinking of water, for instance, had entirely lost its initial compelling character and its degree; it became easily controlled by persuasion, was subject to occasion and absent during the stay in the hospital.

On the other hand, marked polyuria has been observed also in tumors (gumma) in the vicinity of the hypophysis and in various affections of the brain stem (chiasma, subthalamic region, etc.); it likewise has been produced by irritation of certain parts in the medulla oblongata.

The polyphagia, repeatedly mentioned in the literature, has been attributed to posterior lobe insufficiency. If we interpret the rapid growth of the patient, the advanced development of the labia majora, and the growth of hair on the labia majora in the light of the present preponderant evidences of the function of the parts of the hypophysis, we may possibly have here an example of activation and hyperfunction of the anterior lobe, combined with posterior lobe insufficiency (dyspituitarism, Cushing). This unusual type differs thus from the common type (Froehlich's[4]) of hypophysial dystrophia adiposogenitalis, which is characterized by undergrowth and sexual hypoplasia due to simultaneous anterior lobe inhibition. Somewhat similar instances of dyspituitarism are those of Neurath[5] and Case 34 of Cushing.

The disturbance of micturition and defecation finds its ready explanation in the large hydrocephalic effusion, with pressure lesion of the corresponding cerebral districts. Bladder disturbances, which, according to Frankl-Hochwart and Froehlich,[6] are not infrequently observed in hypophysial dystrophy, have been explained mostly by compression of the pes pedunculi by a grow-

3. Schaeffer, E. A.: Quoted from Falta.
4. Froehlich: Wien. klin. Rundschau. No. 45, 1901.
5. Neurath: Ueber Fettkinder, Wien. klin. Wchnschr., No. 2, 1911.
6. Frankl-Hochwart and Froehlich: Arch. f. exper. Path. u. Pharmakol. **63**: 347, 1910.

ing tumor of the pituitary body. However, both authors consider also the possibility of the reduced function of the posterior lobe and the lack of the pituitrinum infundibulare being a responsible factor.

The presence of a marked degree of hydrocephalus in our case renders it futile to distinguish the psychic alterations of hypophysial origin from those due to the ventricular effusion.

The supervening optic neuritis would have made surgical interference urgent. Balkenstich operation after Anton and Bramann was contemplated as the simplest decompression operation for the hydrocephalus, with the possibility in view of thus relieving and reactivating the pituitary body. The intercurrent diseases, however, rendered it impossible.[7]

4557 Broadway.

THE SURGICAL TREATMENT OF RHINOPHIMA

JOSEPH E. FULD, M.D.

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NEW YORK

Rhinophima is the most advanced stage in the development of acne rosacea, characterized by marked hypertrophic changes in the cutaneous and subcutaneous tissues of the nose, producing a firm, reddish or purplish lobulated, and, in extreme cases, pendulous tumor masses. This condition is frequently so disfiguring and repulsive as to prevent the person afflicted with it from earning a livelihood or mingling in society, and it is in just such cases that surgery offers the only means of relief.

Fig. 1.—Incision made in removing the left half of the growth: *A B*, midline incision made down to the cartilage; *A C*, lateral incision encircling the growth.

The pathologic changes which lead up to this condition may well be divided into three stages. The first stage is marked by a simple venous engourgement. The second stage shows the veins and the capillaries permanently enlarged. In the third stage, there is an enormous hyperplasia of the connective tissue elements of the skin, and the sebaceous glands are so enlarged that the nose presents a honeycombed and unsightly appearance.

Fig. 2.—The procedure for removing the growth.

TREATMENT

It is at this stage that the electric needle, ointments and the roentgen ray are no longer of therapeutic value, but where surgery is the only cure. When the tumors are pedunculated, a condition which frequently occurs, their removal requires no special description. There is, however, a marked difference in the operative procedure involving extensive hypertrophy without pedunculation, as in the case of the patient on whom I operated, as shown in the accompanying photographs.

Instead of removing the tumor masses in one piece, in my recent cases, I excised first one half then the other half of the growth, making the operation much easier to perform.

OPERATIVE PROCEDURE

Under general anesthesia, an incision is made down to the cartilage in the median line of the nose, as shown in Figure 1, from *A* to *B*, and a second incision all around the growth from the midline outward from *A* to *C*. The forefinger of the left hand is now inserted into the left nostril, with the palmar surface forward, as a guide. The median edge of the tumor mass is grasped with mouse-tooth forceps (assistant to hold these), and all the diseased tissue, including the entire left lower half of the nose, with the whole thickness of the skin, is dissected off with a knife, the bony and cartilaginous framework of the nose being exposed. The hemorrhage is controlled by pressure with hot pads or forceps and ligations, if necessary. The foregoing steps are repeated on the right side. It is important to leave a little skin near the opening of the

7. In addition to the references already given, the following will be found of interest.
Falta, W.: The Ductless Glands (translation from the German).
Strauch, A.: Infantilism, Am. J. M. Sc., **148**: 247, (Aug.) 1914.

sures to avoid subsequent contracture with the resulting stricture.

The final step in the operation demands considerable care, as the skin graft should be applied in one large piece if possible, and the fairly thick graft which was used in my case has contributed very largely to the striking similarity in the appearance of the new covering of the nose to that of the face in general. Short nasal tubes are now inserted into the nostril, and the nose dressed by carefully covering the graft with several layers of silver foil. A gauze dressing is applied, which is held in place with adhesive plaster, and allowed to remain undisturbed for six days. As all my skin grafts were successful, no further after-treatment was necessary. In cases of this sort, in which the condition so seriously affects the appearance of the patient and the results of the operation are usually both successful and gratifying, it seems surprising that an operation so simple, as here described, has not been resorted to more frequently.

Fig. 3.—Appearance of patient before operation.

Fig. 4.—Appearance of patient after operation.

The Education of the Expert.—The interests of the public and of the nation will be served if all important problems, public as well as private, are in the hands of experts for solution. In administration, legislation, the public health service, agriculture, all branches of engineering, commerce and education, practical problems are continually arising and on the correct solution of these problems depends the welfare of many individuals and even of the nation itself.—Dr. P. G. Nutting, *Scientific Monthly*, November, 1918.

STERILITY OF CATGUT

T. BUTTERFIELD
AND
LEO F. ELY
Lieutenants, S. C., U. S. Army

The writers were assigned by the Surgeon-General to make bacteriologic examination of catgut manufactured for the Army during the period from Dec. 11, 1918, to May 3, 1919, and a special opportunity was, therefore, presented to make extensive study of the sterility of the commercial catgut as manufactured by the particular firms in Chicago that were concerned with the Army contracts. Approximately 15,000 tubes, selected at random, representing a total output of 5,000,000, were examined. The total number of contaminated tubes found was 1,518, or 11 per cent.

Through the courtesy of the manufacturer it was permitted to vary the sterilization process under official government supervision until a more dependable process was found whereby a sterile product would be furnished. This experimental process will be described later. The method followed in making the bacteriologic examinations is first described; the process of sterilization used by the manufacturer, the difficulties of this process, and the advantages suggested as a result of our experiments are discussed later.

METHOD OF THE AUTHORS

An inspector representing the United States Appraisers Stores collected 100 tubes of catgut from each autoclave, and these were equally divided between the two bacteriologists. In order to prevent any possible sources of extraneous contamination being carried into the culture tube from the outside of the tubes containing the catgut, the tubes from each sterilizer were placed in a beaker and given a thorough washing in petroleum ether to remove all oil from the outside. After this preliminary precautionary measure the tubes were allowed to stand in a 1:200 solution of mercuric chlorid over night. The actual work of transferring the catgut from the tubes to the culture broth was done under a small glass cage, placed in a small room. The room and cage were wiped down each morning with a 1:1,000 solution of mercuric chlorid.

The following morning the tubes were lifted with sterile forceps from the mercuric chlorid solution and dipped quickly into boiling water to wash off the adherent mercuric chlorid. The empty end of the tube was heated in a small flame and the end broken off with sterile forceps. The coil of catgut (average length 18 inches) was pulled with a small pair of sterile scissors part way out of the broken end of the tube and the coil was clipped in two, thus dividing the catgut into pieces about 2 inches long. The catgut was then taken up with the scissors and dropped into a sterile, cotton-stoppered Erlenmeyer flask containing about 120 c.c. of sterile water. The catgut was left for two hours in this wash water, which was shaken occasionally. Some batches were examined in duplicate, one batch being washed by this method, while a culture was made at once of the other without washing, in order to ascertain what effect, if any, the washing process had on the catgut.

After this temporary washing to remove the adherent oil, two or three lengths of catgut (about 7 inches) were placed with sterile forceps in each of the two tubes of broth. The broth tubes were incubated for seven days at 37 C., one aerobically and the other anaerobically. By this method, two tubes were made from each suture tested.

The anaerobic condition was obtained by autoclaving the broth tubes just before inoculating and by covering the broth immediately after inoculation with sterile liquid petrolatum. Cultures of *B. tetani* from two reliable sources grew favorably under these conditions. For controls on technic pieces of ordinary coarse twine were sterilized in water and carried each day through the same processes as the specimen of catgut. The control tubes were found sterile in all tests. Further controlling tests were made by exposing tubes of broth placed in different parts of the room while the work was in progress to determine the possibility of air contamination in the working space. In one instance, one of these exposed tubes was found to be contaminated and on microscopic examination it was revealed to be a staphylococcus, an organism which was rarely found to be the one responsible for contaminated catgut. The fact that many sterile tubes of catgut, a considerable number of which had been washed in water, were found sterile, simultaneously served as a control on the wash water and broth.

PREPARATION OF MEDIUM

The medium used for these determinations was nutrient broth prepared according to the standard methods of the American Public Health Association with 0.2 per cent. of glucose added, final reaction 0.4 to 0.8 + to phenolphthalein. The broth was tubed in about 15 c.c. amounts to each tube, and then sterilized at 15 pounds pressure for 20 minutes. The glucose was added to render the medium more favorable for certain anaerobic forms.

The tubes were examined at the end of the second or third day and again at the end of the seventh day. The majority of contaminations showed up at the first reading. The physical appearance of the broth in the tubes was considered as sufficient evidence of infection. Gram stains, however, were frequently made from tubes that indicated contamination in order to determine the morphology of the infecting organism.

The catgut submitted for this examination was first prepared and completely dehydrated according to the particular process of the manufacturer. It was then immersed in the tubing fluid in the tubes—in these cases a high boiling oil—and then the tube was sealed. When sterilization by heat is employed it is necessary that all traces of moisture shall be removed or the catgut will become unserviceable when it is heated. On the other hand, the temperature to which the catgut is raised must not be carried too high or the tensile strength will be injured as a result of carbonization. Under these conditions autoclaving of dry catgut in sealed tubes is practically nothing more than sterilization by dry heat. The tendency has been, therefore, to maintain the tensile strength rather than to apply sufficient heat to kill the most resistant organisms. The experiments on the sterilization process proved conclusively that in some cases the large number of contaminations found could be attributed to inefficient sterilization.

As far as the writers know, no work has been done to determine the resistance of bacterial life to heat, when the forms of such life are completely dry, under oil, and protected from the effects of live steam.

DETERMINATION OF CRITICAL PRESSURE

A number of sterilizers were run under varying pressures to determine the critical pressure above which one could be assured of a sterile product and below which a sterile product would always be uncertain. Steam pressures varying from 22 pounds up to 32 pounds for three hours were used. It was found that with a suture which received the preliminary treatment such as those tested had received the critical pressure was between 27 and 28 pounds for three hours. Sterilizers run below 27 pounds or for a period less than three hours or by intermittent methods frequently showed contaminated catgut, and the lower the pressure the larger was the number of contaminated tubes. Twenty-five autoclaves, completely filled with tubes, were run at from 28 to 30 pounds pressure for three hours and on examination none of these tubes showed contamination. The catgut sterilized at this temperature proved to be of a satisfactory tensile strength.

EFFECT OF PRELIMINARY WASHING

During the course of the work the question was raised as to whether the preliminary washing of the catgut in the sterile water was an advantage or a disadvantage to the test. It was quite evident that when the results with the washed and unwashed catgut were compared there might be a possibility that some of the contamination had been washed from the surface of the catgut by this washing process, thereby securing a more sterile product than the actual conditions warranted. The reason for washing the gut in the beginning was that the different persons consulted all agreed that any oil which might adhere to the gut in transfer would be detrimental to any possible bacterial growth that might occur. To decide this question the samples from fifty sterilizers were run in duplicate washings, in half of which the washing process as described was used and in half the samples were planted at once without preliminary washing. The results showed about 30 per cent. more contaminated tubes from the tubes put on without washing. This result can be due to one of two causes. The washing may have reduced the amount of surface contamination on the catgut, or what appears to be more clearly the cause, the amount of catgut planted influenced the result; i. e., when the catgut was washed only two or three pieces (about 7 inches) were put in each tube; while, on the other hand, when it was put on without washing the entire coil (about 18 inches) of gut was placed in the culture tube.

A short study was made to determine whether the contamination, which was being found, was in the immersion oil or in or on the catgut itself. The oil from a series of tubes was poured off, a culture was made and the catgut was planted at the same time in correspondingly numbered tubes. The percentage of contaminations from the catgut cultures was greater than from the oil alone and in no case was evidence of contamination from the oil obtained when the corresponding catgut tube did not show similar growth.

A complete record was kept showing the size of each piece of catgut tested and the preliminary treatment that it had received. These records showed that when a sterilizer containing various sizes of catgut comes through without proper sterilization, the larger sizes of catgut will show a correspondingly increased percentage of contaminated tubes. In the same way, when chromicized and nonchromicized tubes of the same size are sterilized defectively in the same autoclave the chromicized tubes will show a larger percentage of growths. It is possible that chromicizing, like heating, renders the bacterial spores more resistant to subsequent sterilization.

CONCLUSIONS

In general it can be said:

1. When oil is used as an immersion fluid for the catgut, washing before planting should not be carried out if a fair check is desired on the sterility of the catgut. The suture should be taken from the tube for bacteriologic examination according to the methods commonly practiced among physicians when they have occasion to use catgut.

2. Chromicized catgut is slightly more resistant to sterilization by heat than the plain catgut.

3. The infection that is found is either within or on the catgut itself and is not present in the immersion oil alone.

4. From 28 to 30 pounds pressure of live steam for three hours is absolutely necessary to sterilize catgut such as that which was submitted to us.

5. Since any contamination may be pathogenic or otherwise, it seems imperative to the writers that some system of federal control should be devised similar to that for biologic products so that all firms manufacturing catgut could be required to adhere to the same standards of sterility.

Clinical Notes, Suggestions, and New Instruments

THE USE OF IODIDS IN PYELOGRAPHY

D. F. CAMERON, M.D., MINNEAPOLIS

In two articles[1] appearing in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION about a year ago, solutions of sodium and potassium iodids were suggested as suitable opaque mediums for pyelography. In these articles, 25 per cent. aqueous solutions of these salts were recommended as best suited for pyelography. It was further stated that the sodium and potassium salts had been used interchangeably, but that the sodium salt was preferable.

A recent release from military service has enabled the author to investigate further the use of these solutions. A more complete report of this investigation will appear later, but it seems well to report now certain modifications of the conclusions reached previously.

First, it is desired to emphasize, more strongly than before, that the sodium salt is to be preferred. Second, a 17.5 per cent. solution of sodium iodid has been found to be sufficiently opaque for pyelography, and nothing is gained by using a stronger solution as was previously recommended. (Twenty gm. of sodium iodid dissolved in a sufficient amount of distilled water to make 100 c.c. makes a four-thirds molar solution, which is also approximately a 17.5 per cent. solution by weight.)

During the last two months, at the University Hospital, Minneapolis, the author has personally used, as a routine for pyelograms, solutions of sodium iodid in concentrations not exceeding 17.5 per cent. The thirteen pyelograms made have been very satisfactory. The procedure has been attended with very little discomfort to the patients and with no serious reactions whatever.

University Hospital.

1. Cameron, D. F.: Aqueous Solutions of Potassium and Sodium Iodids as Opaque Mediums in Roentgenography, J. A. M. A. **70**: 754 (March 16) 1918. Cameron, D. F., and Grandy, C. C.: Sodium and Potassium Iodids in Roentgenography, J. A. M. A. **70**: 1516 (May 25) 1918.

PROCEEDINGS OF THE ATLANTIC CITY SESSION

MINUTES OF THE SEVENTIETH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT ATLANTIC CITY, JUNE 9-13, 1919

HOUSE OF DELEGATES

First Meeting—Monday Morning, June 9

The House of Delegates met in the Library of the Hotel Traymore, Atlantic City, N. J., and was called to order at 10 a. m. by the Speaker, Dr. Hubert Work, Pueblo, Colo.

Preliminary Report of the Committee on Credentials

The Chairman of the Committee on Credentials made a preliminary report for this committee, stating that the committee desired at this time to report progress, and that more than a quorum of delegates had qualified.

As there was no objection, the report was accepted.

Next in order was the roll call by the Secretary.

The Secretary stated that the registration of the delegates in attendance recorded the presence of more than a quorum.

A quorum being present, the Speaker announced that the House was constituted and ready for the transaction of business.

The next order of business was the presentation, correction, and adoption of the minutes of the Sixty-Ninth Annual Session.

The Secretary stated that the minutes had been printed and circulated among the members of the House of Delegates, with the request for criticisms or corrections, but none had been received.

It was moved that the reading of the minutes of the Sixty-Ninth Annual Session be dispensed with and approved as printed.

Seconded and carried.

Addresses of Executive Officers

Drs. Hubert Work, Speaker; Arthur Dean Bevan, President, and Alexander Lambert, President-Elect, addressed the house. See addendum, page 1764.

Reports of Officers

Report of the Secretary

The Secretary presented the following report, which was referred to the Reference Committee on Reports of Officers:

To the Members of the House of Delegates of the American Medical Association:

For the year 1918-19 I submit the following report:

MEMBERSHIP

The membership of the various constituent state associations which is the membership of this Association, according to records in the Secretary's office, May 1, 1919, was 82,288, as shown on the accompanying table.

FELLOWSHIP*

The Fellowship of the American Medical Association on May 1, 1918, was 44,715. During the year 753 Fellows have died, 2,193 have resigned, 310 have been dropped as not eligible, 257 have been dropped for nonpayment of dues, and 28 have been removed from the rolls on account of being reported "not found," making a total of 3,541 names to be deducted from the Fellowship roll. There have been added 4,238 names to the Fellowship roll of which 2,305 were transferred from the subscription list. The Fellowship of this Association on May 1, 1919, was 45,412, a net increase for the year of 697.

This gain in the number of Fellows, as in previous years, is due largely to circularizing subscribers to THE JOURNAL who were eligible, urging them to become Fellows.

INTERIM APPOINTMENTS

During the year, Dr. Ludvig Hektoen, Chicago, tendered his resignation as a member of the Council on Health and Public Instruction, and the President appointed Dr. Victor C. Vaughan, Ann Arbor, Mich., to serve on this Council until this annual session.

Dr. H. Gideon Wells, Chicago, tendered his resignation from the Council on Medical Education, and the President appointed John B. Dodson, Chicago, to fill the vacancy until this annual session. Dr. H. D. Arnold, Boston, also resigned from the Council on Medical Education, and the President appointed Dr. Isadore Dyer, New Orleans, to fill this vacancy until this annual session.

THE AMERICAN MEDICAL ASSOCIATION AND THE RECONSTRUCTION PERIOD

At its annual sessions during the progress of the war, reports have been submitted to the House of Delegates regarding the Association's cooperation with the Federal Government in matters involving the services of physicians. These reports show that the Association endeavored to assist the Government in every way in which this could be done by a civilian organization. A review of these war activities would reveal few, if any, instances where the Association could have done more or acted differently than it did. However, in mobilizing an armed force under the conditions which existed, there were many occasions for criticism certain of which may appear to be warranted from the view point of the individual. The House of Delegates should know that letters from physicians have been received at the Association Headquarters in which the writer complained of the conditions of service in which he found himself, or criticised the Association's war policy. For example, physicians who were called to active military service and held in training camps complained because they were not assigned to posts in connection with the armed forces. Since the cessation of hostilities, letters have been received from physicians who have not been sent overseas, urging that the group to which they belong should be the first to be demobilized. On the other hand, physicians on overseas duty argued that because they have been kept away from home for a considerable period of time, they should be given the preference by being returned promptly to civil practice. Manifestly these matters are not within the province of this Association. Since the Armistice, a considerable number of physicians have been released from military service, and presumably the demobilization may be expected to proceed more rapidly as the overseas forces under arms are returned and discharged, but a sufficient personnel of the Medical Corps must be retained in service until the army has been reduced to a peace status.

Reports regarding the return of physicians to civil practice received from the different state associations are gratifying; it is almost the universal comment that these physicians are finding a hearty reception in the localities where they formerly practiced. When these physicians locate in new communities, they are in practically all instances welcomed by the medical profession of the locality. The state associations and the county societies undoubtedly will find a field for effective service in assisting these returning physicians to reestablish themselves in civilian practice. Moreover through our organization the courtesies which have always been shown by one physician to another may overcome the unavoidable irritations which arise between physicians who have served in the Army, the Navy and the Public Health Service and those who have remained at home.

* These figures do not include those who are now Fellows by virtue of their being commissioned and on active duty as Medical Reserve Corps Officers but who previously have not been Fellows.

It cannot be expected that an exact prewar status ever will be restored. The task which confronts the American Medical Association, with its constituent state associations and component county societies, is to assist in bringing about a better state of affairs in the medical profession.

SECTS IN MEDICINE

The Principles of Ethics of the American Medical Association declare that "A physician should not base his practice on an exclusive dogma or sectarian system, for sects are implacable despots; to accept their thralldom is to take away all liberty from one's actions and thought." In a word, for years the American Medical Association has welcomed to its membership those who are primarily physicians. The several military services have commissioned physicians without regard to the fact that a considerable number of them have graduated from so-called sectarian schools. These qualified as physicians. All commissioned medical officers served under similar conditions and used in their professional work the same standard equipment. Sectarianism found no place in the medical military service. War experience has confirmed the position which the American Medical Association has maintained for so long a time and the Association may have a proper pride in emphasizing that it is a non-sectarian, all-inclusive organization of physicians.

ORGANIZATION OF CONSTITUENT ASSOCIATIONS

Constituent Association of	No. Counties in State	No. Component Societies in State Assn.	Number Counties in State Not Organized		No. Physicians in State (6th Ed. Directory)	Number Members of State Association		No. A. M. A. Fellows in State	No. Subscribers to Journal in State*
			1918	1919		1918	1919		
Alabama	67	67	0	0	2,530	1,752	1,751	287	296
Arizona	14	11	3	3	333	182	188	152	98
Arkansas	75	63	13	12	2,587	1,045	1,001	378	257
California	59	42	19	17	5,929	2,862	3,273	1,903	1,319
Colorado	63	29	32	34	1,713	874	881	525	321
Connecticut	8	8	0	0	1,701	1,067	1,048	640	338
Delaware	3	3	0	0	264	103	103	58	44
Dist. Columbia	....	....	0	...	1,237	559	573	372	245
Florida	54	32	22	22	1,293	502	506	202	196
Georgia	152	89	58	63	3,436	1,415	1,426	531	442
Idaho	41	25	16	16	449	132	123	94	130
Illinois	102	101	1	1	10,909	6,330	6,804	4,419	2,212
Indiana	92	91	2	1	4,765	2,055	2,093	1,285	459
Iowa	99	99	3	0	4,004	2,323	2,259	1,285	600
Kansas	105	63	33	42	2,683	1,633	1,637	816	392
Kentucky	120	117	7	3	3,503	2,146	2,130	685	344
Louisiana	64	40	23	24	2,023	899	1,029	372	339
Maine	16	15	1	1	1,179	744	720	292	135
Maryland[1]	23	21	2	2	2,268	1,012	1,047	694	420
Massachusetts[2]	14	14	0	0	5,870	3,681	3,709	2,088	1,009
Michigan	83	81	1	2	4,598	2,738	2,978	1,632	631
Minnesota	86	83	3	3	2,548	1,688	2,037	1,111	461
Mississippi	81	78	3	3	1,975	400	361	228	214
Missouri[1]	114	103	11	14	6,063	3,216	3,345	1,405	785
Montana	44	17	27	27	661	225	375	184	135
Nebraska	93	64	26	29	2,237	1,146	882	603	377
Nevada	16	3	12	13	152	89	79	43	32
New Hampshire	10	10	0	0	657	521	528	253	84
New Jersey	21	21	0	0	3,046	1,793	1,814	1,036	536
New Mexico	28	12	17	16	456	147	207	115	81
New York	62	61	1	1	15,877	8,470	8,540	5,090	2,702
North Carolina	100	86	15	14	2,237	1,277	1,231	412	308
North Dakota	53	51	2	2	604	190	429	260	118
Ohio	88	87	1	1	7,802	4,353	3,832	2,309	1,046
Oklahoma	77	65	9	12	2,672	1,466	1,583	584	239
Oregon	36	33	3	3	1,128	709	712	250	252
Pennsylvania[3]	67	63	4	4	11,539	6,928	6,626	3,794	1,615
Rhode Island[2]	5	5	0	0	759	427	409	290	119
South Carolina	45	41	4	4	1,237	705	719	291	235
South Dakota	68	10	7	8	646	373	368	221	146
Tennessee	96	67	29	29	3,481	1,686	1,599	561	382
Texas	250	179	71	71	6,236	3,508	3,059	1,334	592
Utah	29	4	24	25	477	267	229	164	116
Vermont	14	12	0	2	639	414	423	153	82
Virginia[4]	100	59	34	41	2,509	1,767	1,773	602	448
Washington	39	19	19	20	1,673	965	1,100	539	336
West Virginia	55	43	12	12	1,759	930	1,081	455	252
Wisconsin	71	71	0	0	2,783	3,001	3,041	1,084	489
Wyoming	22	5	17	17	254	82	93	71	75
Misc., (foreign), Govt. subsc. for Army, Navy & U. S. P. H. S.	....	....	...	...	.....	.....	.....	631	2,003
	....	....	...	...	.....	.....	.....	20	1,394
Alaska	....	....	...	...	.....	.....	.....	3	18
Canal Zone	....	....	...	...	.....	97	109	24	18
Hawaii	5	....	...	...	.....	79	72	44	29
Porto Rico	7	....	...	...	.....	113	93	29	30
Philippine Isl.	....	....	...	...	.....	92	110	30	77
Totals	3,036	2,363	587	614	145,384	81,248	82,288	43,043	26,029
Commissioned Officers[5] and Honorary Fellows								2,369	
								45,412	

* Not including Fellows of American Medical Association.

Note.—The number of members of the different associations stated in this table is in accord with the membership of the several associations as they were reported to the Secretary on May 1, 1919.

The lack of an effective uniform system for reporting the membership of the state associations accounts for whatever discrepancies this table shows and detracts from the value of the statement.

Component societies are those societies which compose the state association. A component society may include one county or more.

1. The state of Maryland has 23 counties and the city of Baltimore; Missouri has 114 counties and the city of St. Louis.

2. These state associations are divided into district societies, and these are listed in the table as component societies. Some of these districts are smaller and some larger than the county, the county lines being ignored.

3. Provision is made for the physicians in each of these counties to join the component society in an adjoining county.

4. Virginia has recently adopted the plan of organization and is now establishing component county medical societies.

5. This figure includes the Medical Corps of the Army, the Navy and the Public Health Service.

ELECTION OF HONORARY FELLOWS

The By-laws, Section 5, Chapter IV, reads: "Not more than three honorary Fellows shall be elected in any one year." Under ordinary conditions, this is a wise provision. However, this Victory Meeting is an occasion when the House should be in position to elect more than three Honorary Fellows. To present this matter in a practical form for the consideration of the House, it is proposed that the By-law quoted be amended so as to read:

> Not more than three Honorary Fellows shall be elected at any annual session; provided, however, that on recommendation of the Council on Scientific Assembly, and by unanimous vote the House may elect more than three Honorary Fellows.

FELLOWSHIP DESIGNATION

It has been suggested that Fellows of the Scientific Assembly of the Association be permitted to use an authorized designation after their names in signing scientific papers or under other conditions where it is desirable to indicate their Fellowship. The following designations have been proposed: F. S. A.—Fellow Scientific Assembly; F. A. M. A.—Fellow American Medical Association; F. S. A. A. M. A.—Fellow Scientific Assembly of the American Medical Association. It would seem advisable that the symbol, if one is adopted, shall recognize that Fellowship is a relationship to the Scientific Assembly—the scientific convention held in connection with the annual session of the Association.

Other matters in which the office of the Secretary of the Association has been concerned are reported to the House of Delegates from other sources.

Respectfully submitted,

ALEXANDER R. CRAIG,
Secretary.

Report of the Board of Trustees

Dr. Thomas McDavitt, Chairman, presented the following report, which was referred to the Reference Committee on Reports of Officers.

To the Members of the House of Delegates of the American Medical Association:

Two years ago the Board of Trustees presented to you a rather pessimistic outlook as regards THE JOURNAL. It was predicted that physicians entering the Government service would not keep up their subscriptions, and that quite a falling off in the subscription list might be expected. These predictions were not verified, as will be seen by the tables giving the circulation, published in the addenda to this report. It is true that a large number of physicians discontinued their subscriptions to THE JOURNAL on entering the service, but later, when they were able to give a definite address, many ordered their copies to be forwarded. Special efforts were made to accommodate medical officers not only by changing addresses as needed, but in every other way possible. THE JOURNAL records show that the actual number of changes of address for men in the Army during the year was 22,286.

The increase in subscriptions for the year 1918 was small —229 all told—but under the circumstances, this must be regarded as satisfactory. Although this report covers the

calender year 1918, we may interject here the statement that a comparison of the subscription list in May, 1918, with that in May, 1919, indicates an increase in circulation of 3,400. The weekly circulation during the first four months of the current year was greater than that in any previous four months, averaging over 70,000. Our foreign circulation also is steadily increasing.

Advertising Department

The Advertising Department of The Journal made a most satisfactory showing, reaching $312,440.26—the largest income from advertising in The Journal's history. The high advertising standard has been maintained; in fact, if anything the censorship has been more rigid. The results show that, in the long run, there is no loss in maintaining a high advertising standard.

Cooperative Medical Advertising Bureau

The wisdom of establishing the Cooperative Medical Advertising Bureau becomes more evident each year. Through it the state journals secure legitimate advertising with little or no effort on their part, and with economy. The Bureau has demonstrated that it is possible to secure for these journals a fair amount of advertising of which our profession need not be ashamed. The success of the Bureau has removed the temptation for the state journals to accept that class of advertising which for so many years has been discreditable to medical publications. The Bureau began this year with twenty-six state journals, representing thirty-one state medical associations. The only state medical journal not represented is that of Illinois.

As the name indicates, the Bureau is cooperative in character. For the first three years it was necessary to appropriate money for its support, but during the last two years it has been self-supporting. Last year, 1918, there was a surplus of about $1,900; this was distributed pro rata among its journal members.

Archives of Internal Medicine

The circulation of the Archives of Internal Medicine is quite satisfactory. While we might have expected a decrease in circulation during the year on account of the war, there was really an increase of 234. The circulation at the end of the year was 2,600. There was a net loss on the publication of this periodical of $1,320.58.

American Journal of Diseases of Children

The American Journal of Diseases of Children shows a falling off in circulation during the year from 2,415 to 2,114. It is quite evident that this loss was temporary and due to the cancellation of subscriptions by physicians going into military service. On the first of May a number had resubscribed. There was a profit in the publication of this journal of $404.62.

Spanish Edition

A year ago the president of the Rockefeller Foundation, at the suggestion of the International Health Board, wrote the General Manager to the effect that it would be a great achievement, both for medicine and international relations, if The Journal of the American Medical Association could be translated into Spanish for circulation particularly in Central and South America. The subject was submitted to the Board of Trustees at the annual session last June, and after some discussion it was referred to a committee to report at the fall meeting. The committee reported favorably, and after careful consideration the Board authorized the publication, semi-monthly, of a Spanish Edition of The Journal. Considerable difficulty was encountered at first, especially in securing the necessary help—native Spanish translators, stenographers and clerks—but this was gradually overcome, and the initial number was issued early in January. The Spanish Edition is published on the first and fifteenth of the month, and the subscription price has been tentatively fixed at $5.00.

The Spanish Edition contains practically all of the scientific material in the regular edition, but matter that is ephemeral or of local interest is not included. Thus far there is good reason to regard the enterprise as satisfactory in every way. The letters which have been received—and these have come from all the Central and South American countries, Mexico, Philippine Islands, and even Spain—have been extremely appreciative and encouraging. Of course, the motives prompting the enterprise are purely altruistic; it can not be expected that this journal will be self-supporting for a considerable length of time. But it certainly will help to bring about better relations between our country and our Spanish-speaking neighbors. By the publication of this Spanish edition, we are able to place in their hands a medical journal at least equal, if not superior, to any they may obtain in their own, or, for that matter, in any other language.

The subscriptions are coming in rapidly, and at the present writing, May 15, they number over 1,400.

Archives of Neurology and Psychiatry

In response to a petition signed by a large number of the leading neurologists and psychiatrists, the Archives of Neurology and Psychiatry has been established. It is published monthly, on the same terms as the Archives of Internal Medicine. This journal may already be regarded as a success; on the first of May it had nearly 900 subscribers. This number is remarkable, considering the technical character of the journal and the limited number of men specializing in the two branches of medicine it covers. The character of the men who generously accepted the responsibility of its editorial management guarantees a journal of the highest order, and one that will be a credit to American medicine and to the Association.

As will be noticed, there was a loss on the publication of the Archives of Internal Medicine and only a small profit on the American Journal of Diseases of Children. There would have been a loss on the latter were it not for the fact that on account of the war the number of pages contained in each issue was considerably reduced. The loss on the Archives of Internal Medicine is explained by the large increase in cost of production, which includes paper, labor, etc.—approximately 35 or 40 per cent. Under the circumstances it was decided to increase the subscription price of these two journals—the Archives of Internal Medicine from $4 to $5, and the American Journal of Diseases of Children from $3 to $4. As combination rates are secured by nearly all subscribers, practically all get these journals at a dollar discount.

It should be emphasized again that the Association is not publishing these journals for financial gain; the object is to advance scientific medicine and to benefit the American medical profession. The Board of Trustees is of the opinion that the Association should publish more of these special journals if, and when, there is call for them. We are now splendidly equipped to do this kind of work. The printing plant is up to date in every particular, making it possible to do excellent work, and to do it economically. Moreover, we are at an advantage because we are in direct touch with the entire profession in every part of the country, and thus can introduce and promote—that is, advertise—a new journal practically without expense. This is illustrated in the new journal—the Archives of Neurology and Psychiatry: within four months of its establishment this journal had a circulation greater than that of any other journal in the world devoted to this specialty, so far as can be determined.

American Medical Directory

The American Medical Directory, which under ordinary circumstances, should have been off the press in May, was not issued until October. The delay was unavoidable, and was due to the necessity of taking much of the biographical force off the Directory and putting it on war work. A reference to the Auditor's report shows a loss in the production of the Directory of $10,241. While this may be reduced by future sale of books, we may estimate the ultimate loss as between nine and ten thousand dollars. This is due in part to the delay referred to, which necessitated much recorrec-

tion; and in part also to the rescinding of orders because of the delay. Another important factor was the falling off of orders from medical men who were in military service.

Quarterly Cumulative Medical Index

The Quarterly Cumulative Medical Index also shows the effects of the war. On Jan. 1, 1918, there were 705 names on the list; while on Jan. 1, 1919, there were only 650—a loss of 55 during the year. This can be directly traced to war conditions. There was considerable loss this year—$1,880. The explanation is simple: decreased income on account of smaller circulation, and greatly increased cost of production. There is no doubt as to the wisdom of publishing such an index. While there is a loss, there are few undertakings on which the Association can more advantageously make an annual investment than in publishing this valuable aid to medical literary research. As the price has been increased $1 a year, the future loss will be smaller.

Council on Pharmacy and Chemistry and Chemical Laboratory

During the year the Council on Pharmacy and Chemistry has been less active than usual, many of its members being in government service—three abroad. However, the Council and the Laboratory have been active in war work, and some of their activities are especially worth mentioning, because of their intimate connection with the war:

Early in the year Colonel Darnell, chief of the purchasing division of the Surgeon-General's Office, asked for the cooperation of the Council in revising the field and post lists of drugs, with a view to their modification. In response to this request the Therapeutic Committee (composed of Dr. R. A. Hatcher, of Cornell; Dr. John Howland, of Johns Hopkins; Dr. Reid Hunt, of Harvard; Dr. Torald Sollmann, of Western Reserve, and Professor Puckner) met in Chicago in April, 1918. Dr. W. E. Post, of Chicago, and Col. Henry I. Raymond, chief surgeon of the Central Department of the Army, also were present—the latter because of his familiarity with the needs of the Army under various circumstances. The Committee devoted two full days to the work, and later presented a formal report, in which specific recommendations, including additions, deletions and modifications, were made. The report of the committee was adopted in practically every detail. This work was far more important than this simple paragraph indicates.

Another service which is worthy of specific mention is the cooperation of the Council and the Chemical Laboratory with the Surgeon-General's Office in investigating and passing on the many medicinal products offered to the Surgeon-General for use in treating the sick soldier both in the hospital and in the field. To one not having personal knowledge of the facts it would seem unbelievable that such a variety of fakes would be offered in earnest to the government under such conditions. One phase was interesting, and yet pathetic: no matter how fraudulent, how fakish, or how ridiculous the wares might be, their promoters were able to get political influence, even certain senators and congressmen, to help them. Automatically, all medicinal preparations offered the Surgeon-General were referred to the Council.

The Council, and in particular the Chemical Laboratory, did valuable work toward the production of certain synthetic drugs, the manufacture of which was authorized by the Federal Trade Commission under the Trading with the Enemy Act. The licenses for the manufacture of these synthetics were issued by the Federal Trade Commission only after the Chemical Laboratory and the Council had determined the satisfactory quality of American-made synthetics, such as procain (first introduced as novocain), barbital (first introduced as veronal), phenylcinchoninic acid (first introduced as atophan), etc.

Those who have read the report of the last annual meeting of the Council in The Journal will notice that it is taking up some rather important problems, such as synthetic drugs, nonspecific protein therapy, serums and vaccines. There has never been a time when there was greater need for scientific research and investigation in the field of therapeutics than the present. We are reading daily of the energy that is being expended in England, in France and in Japan, as well as in our own country, in the development of industries that heretofore have been almost entirely monopolized by Germany. This applies especially to the development of the dye industry and its by-products—the source from which has come a few good, but very many worthless, therapeutic agents. On every side, in this country especially, there is evidence of the determination to remain independent of Germany, so far as this class of preparations is concerned. We may therefore expect a flood of synthetics equal to, if not greater than, the supply that came from Germany before the war. Unless we are careful there will be a repetition of the past in this regard where the medical men were exploited in trying out new synthetics. A safe guide for physicians who desire to protect themselves and their patients will be the reports of the Council on Pharmacy and Chemistry.

One of the publications of the American Chemical Society is urging cooperative research on the part of the society in this development, their object being to encourage chemical industry. Our object also should be to encourage chemical industry in this country; but we can do no better or more patriotic service than to provide means for clinical investigation of any new product offered. Such work naturally would come under the direction of the Committee on Therapeutic Research.

This fact—for it is a fact—we must appreciate: Grants are being made by various organizations to encourage research in these lines. Everything is being done to develop these industries, but it will be left to the medical profession to guard against worthless synthetics. This our Council on Pharmacy and Chemistry will do, and do successfully if it is supported by our profession. Not all of us realize as much as we should the effect that the Council has had in blocking the introduction of a lot of useless, if not worthless, therapeutic agents, including so-called synthetics.

Propaganda Department

As with some of the other departments, the war affected the activities of the Propaganda Department. At the same time, it gave this department, as the others, an opportunity to cooperate with, and be of service to, the Government in its work. For instance, a request received from two camp libraries for the publications issued by the Department furnished a hint early in the year that was acted on. An offer was made to donate a complete set of the publications on the nostrum evil and quackery to the libraries of all camps and cantonments. The offer met with immediate response, and sets composed of "Nostrums and Quackery," "The Great American Fraud," and a complete set of the Propaganda pamphlets covering the same subject were sent to the various camps.

Soon after the Public Health Service created its Section on Venereal Disease, a request was received from Surgeon-General Blue, for the director of the Propaganda Department to be present at a conference in Washington on the subject of venereal quackery. Following this conference the department was able to furnish material that is believed to have proved of importance and practical value to the special division of the Public Health Service that was created to handle this problem.

Manual of Treatment of Venereal Disease

In connection with the national program for combating venereal disease it is worth noting that we printed for the Army Medical Department 30,000 copies of the Manual of Treatment of Venereal Diseases, and in addition distributed between fifteen and twenty thousand copies of this book. When the Public Health Service took up this work, it asked us to print 70,000 copies of the Manual. Later, orders came from some of the State Boards of Health, so that practically 100,000 copies of the Manual have been printed for the Public Health Service and distributed among the state boards of health. This was done at a nominal cost.

Disposition of Lawsuits

Last year the Board presented a statement regarding the disposition of five lawsuits during the year 1917, each claiming damage to the amount of $100,000, and in addition the Lydston suit attacking the constitutional rights of the Association to meet and transact business outside the State of Illinois. During 1918 three more suits have been disposed of:

The Jenner Medical College vs. the Association and the Council on Medical Education, for half a million dollars. Many alleged grounds of libel were set forth. This case, which has been pending for six years, was dismissed on March 6.

Two cases of E. Wells Kellogg and Edward Patrick Cooke, each for $100,000, for libel, based on an article published in The Journal exposing the Friedmann consumption cure, with which their names were connected. Both were dismissed in April.

Buildings

The Association's increased activities are beginning to crowd the headquarters, especially in the printing department. The Board has under consideration the proposition

Association Building

The proposition under consideration is to tear down the small building on the left and replace it with a steel and concrete building corresponding to, and thus completing, the main structure. The smaller building is what is called mill construction and is not fireproof.

of tearing down the old building and extending the main building to take in this space. If this were done we would have a steel and concrete structure, 100 by 120 feet, six stories and basement. The building now occupied by the Association is constructed to carry two, or even four, more stories; but it probably is not expedient to make more than a six-story building at the present time.

As will be noticed in the Auditor's Report, the real estate of the Association is listed as worth $231,463.59. It consists of three lots, each 40 by 100, located at Grand Avenue and North Dearborn Street. Two of these—the corner and the one next to it—were purchased in 1902 for $42,646.90; the third, in May, 1903, for $14,950.15. Thus the lots cost $57,596. The first building was completed in November, 1902, at a cost of $41,322.90. An additional story was added in 1905, and the building extended back 50 feet to take in the new lot, at a cost of $23,622.47. Thus the old building (A) cost $64,945.37. Each year a depreciation is allowed on this building, and it is now carried on our books at $14,379.93. Building B was erected in 1911 at a cost of $202,189.95. The annual depreciation has brought this down on our books to $159,479.66. Thus, while the real estate—land and buildings—actually cost $324,731.37, they are in the Auditor's Report at only $231,463.59.

War Service

As the War Committee is making a report, it is unnecessary for us to go into details. Suffice to say that the expense connected with the War Committee, the Selective Service, and the work done in cooperation with the Surgeon-General amounts to approximately $17,000. This covers the whole period of the war—1917 and 1918.

Investigation and Standardization of Hospitals

One important work is that connected with the investigation and standardization of hospitals. This work may be regarded as having been begun in 1906, for at that time the first attempt was made to obtain a list of dependable hospitals in the various states. The work has been developing since that time, and an abundance of accurate data has been collected in regard to the number and character of hospitals, their bed capacity and the physicians on the attending staffs. The efforts toward standardizing the hospitals, especially those providing internships for medical graduates, is being energetically pressed, and in this movement the abundance of data collected will be of service. This work is described in detail in the report of the Council on Medical Education, it is mentioned here to emphasize its importance.

In the form of an addendum we give details regarding the circulation of The Journal; also details covering the finances of the Association, these being included in the Treasurer's and in the Auditor's report.

Respectfully submitted,

Frank Billings.
Thomas McDavitt.
D. Chester Brown.
Wendell C. Phillips.
Philip Marvel.
A. R. Mitchell.
H. Bert Ellis.
Oscar Dowling.
W. T. Sarles.

Addenda to Trustees' Report

Subscription Department

The regular weekly issue of The Journal of the American Medical Association from Jan. 1, 1918, to Dec. 31, 1918, inclusive (52 issues), was as follows:

January 5	67,668		July 6	66,026	
January 12	67,555		July 13	66,194	
January 19	67,425		July 20	66,559	
January 26	67,320		July 27	66,165	
		269,968			264,944
February 2	67,013		August 3	66,312	
February 9	67,171		August 10	66,145	
February 16	66,891		August 17	67,009	
February 23	67,447		August 24	65,909	
		268,522	August 31	66,260	
March 2	66,565				331,635
March 9	66,927		September 7	65,518	
March 16	67,137		September 14	65,574	
March 23	67,281		September 21	65,974	
March 30	66,591		September 28	66,038	
		334,501			263,104
April 6	67,168		October 5	65,991	
April 13	67,105		October 12	65,739	
April 20	67,554		October 19	65,939	
April 27	70,177		October 26	66,410	
		272,004			264,079
May 4	70,054		November 2	66,114	
May 11	75,262		November 9	66,196	
May 18	70,157		November 16	66,062	
May 25	67,127		November 23	66,371	
		282,600	November 30	66,772	
June 1	67,104				331,515
June 8	66,785		December 7	70,911	
June 15	66,563		December 14	71,200	
June 22	66,046		December 21	69,300	
June 29	66,116		December 28	67,950	
		332,614			279,361

Weekly average **67,209**

Total **3,494,847**

PERCENTAGE OF PHYSICIANS RECEIVING THE JOURNAL

The table below gives the number of physicians (based on the Sixth Edition of the American Medical Directory) in the United States, the number receiving THE JOURNAL, and the approximate percentage in each state. It does not include the copies to physicians in the U. S. Army, the U. S. Navy, the U. S. Public Health Service, etc.

State	Number Receiving JOURNAL	Physicians in State 6th A. M. Dir.	Approx. Percentage 6th A. M. Dir.
Alabama	670	2,530	26
Arizona	234	333	70
Arkansas	636	2,587	25
California	2,859	5,929	48
Colorado	794	1,713	46
Connecticut	939	1,701	55
Delaware	97	264	33
District of Columl	616	1,237	50
Florida	401	1,296	32
Georgia	1,123	3,442	33
Idaho	212	458	46
Illinois	6,205	11,095	56
Indiana	1,645	4,765	32
Iowa	1,824	4,004	46
Kansas	1,236	2,668	46
Kentucky	1,010	3,483	29
Louisiana	699	2,060	34
Maine	422	1,179	36
Maryland	1,079	2,268	48
Massachusetts	2,999	5,926	51
Michigan	2,202	4,598	48
Minnesota	1,499	2,566	54
Mississippi	438	1,975	28
Missouri	2,061	6,063	34
Montana	301	661	46
Nebraska	921	1,960	47
Nevada	71	159	45
New Hampshire	311	666	49
New Jersey	1,481	3,152	47
New Mexico	210	456	46
New York	7,428	15,877	47
North Carolina	736	2,257	33
North Dakota	352	604	59
Ohio	3,194	8,089	39
Oklahoma	836	2,672	31
Oregon	495	1,157	43
Pennsylvania	5,230	11,495	46
Rhode Island	423	752	58
South Carolina	571	1,433	40
South Dakota	361	695	52
Tennessee	928	3,481	27
Texas	2,042	6,246	33
Utah	255	488	52
Vermont	227	653	34
Virginia	1,076	2,552	42
Washington	880	1,698	52
West Virginia	702	1,759	40
Wisconsin	1,455	2,817	52
Wyoming	134	254	60

The number of Fellows and subscribers on THE JOURNAL mailing list each year since 1900 (advertisers, exchanges, libraries, colleges, etc., omitted) is shown below.

Year	Fellows	Subscribers
January 1st, 1900	8,445	4,633
January 1st, 1901	9,841	8,339
January 1st, 1902	11,107	10,795
January 1st, 1903	12,553	12,378
January 1st, 1904	13,899	14,674
January 1st, 1905	17,570	15,698
January 1st, 1906	20,826	17,669
January 1st, 1907	26,255	20,166
January 1st, 1908	29,382	20,880
January 1st, 1909	31,999	18,983
January 1st, 1910	33,032	19,832
January 1st, 1911	33,540	20,504
January 1st, 1912	33,250	21,620
January 1st, 1913	36,082	19,863
January 1st, 1914	39,518	19,751
January 1st, 1915	41,254	20,430
January 1st, 1916	41,938	22,921
January 1st, 1917	42,744	22,156
January 1st, 1918	43,420	23,117
January 1st, 1919	42,366	24,687

During 1918 there were transferred to Fellowship 2,522 names from the Subscription Department, and fifty-nine from the Archives of Internal Medicine and the American Journal of Diseases of Children—a total of 2,581; 588 Fellows were discontinued as such, but were continued as subscribers.

Treasurer's Report

Report of the Treasurer of the American Medical Association for the year ended December 31, 1918.

ASSOCIATION RESERVE FUND

Reserve Fund as at December 31, 1917		$166,236.27
Investments		35,000.00
Interest—Bonds	$7,197.45	
Interest—Uninvested	293.66	
		7,491.11
Reserve Fund as at Dec. 31, 1918		$208,727.38

TREASURER'S GENERAL ACCOUNT

Balance as at Dec. 31, 1917	$ 256.62
Interest on Bank Balance	8.72
Balance as at Dec. 31, 1918	$ 265.34

DAVIS MEMORIAL FUND

Balance as at Dec. 31, 1917	$ 3,544.69
Interest received for the year	107.11
Balance as at Dec. 31, 1918	$ 3,651.80

Auditors' Report

CHICAGO, January 23, 1919.

To the Board of Trustees,
American Medical Association, Chicago, Illinois.

Dear Sirs:

In accordance with your instructions, we have audited the accounts of the American Medical Association for the year ended December 31, 1918, and now submit our report thereon.

SURPLUS ACCOUNT

The surplus at the beginning of the year amounted to $423,433.87, and the surplus at the end of the year amounted to $471,661.50, an increase of $48,227.63, which may be accounted for as follows:

Net Gain on Operations	$ 83,227.63
Less Transfer to Reserve Fund	35,000.00
Net Increase in Surplus	$ 48,227.63

The net increase in surplus is spread over the assets and liabilities as follows:

Increase in Assets:		
Current and Working Assets		$ 52,409.87
Prepaid Expenses		1,374.01
		$ 53,783.88
Less Decrease in Property and Equipment		4,595.87
		$ 49,188.01
Less Increase in Liabilities:		
Advance Payments on Publications	$ 2,092.81	
Less Decrease in Accounts Payable	1,132.43	
		960.18
Net Increase in Surplus, as above		$ 48,227.63

FINANCIAL POSITION

The financial position of the Association as at December 31, 1918, is shown in the following statement:

BALANCE SHEET AS AT DEC. 31, 1918

ASSETS:			
Property and Equipment at Cost, less Depreciations:			
Real Estate and Buildings			$ 231,463.59
Machinery			46,384.03
Type and Metals			9,087.19
Furniture and Equipment			13,385.97
Chemical Laboratory			1,415.62
Library			1,022.44
			$302,758.84
Reserve Fund Investment			208,727.38
Current and Working Assets:			
Inventory of Materials, Supplies and Work in Process		$ 51,395.42	
Accounts Receivable:			
Advertising	$ 25,187.06		
Cooperative Medical Advertising Bureau	5,717.20		
Reprints	2,405.47		
Miscellaneous	12,297.87		
		$ 45,607.60	
Notes Receivable		$ 124.00	
Directory, 6th Edition		16,000.00	
Cash in Bank and on Hand		64,434.56	
			$177,561.58
Prepaid Expenses:			
Advance on 1919 Publications		$ 1,569.33	
Insurance		958.77	
Session — 1919		90.09	
			2,618.19
Total			$691,665.99
LIABILITIES:			
Accounts Payable:			
Cooperative Medical Bureau		$ 6,390.56	
Sundry		100.00	
		$ 6,490.56	
Advance Payments on Publications		4,786.55	
Association Reserve Fund		208,722.38	
Surplus		471,661.50	
Total			$691,665.99

The balance sheet submitted, in our opinion, correctly reflects the financial position of the Association as at December 31, 1918, subject to provision for accrued interest, taxes and "Journal" subscriptions paid in advance, less subscriptions and memberships due and unpaid.

We examined the securities representing the investment of the Association Reserve Fund, and found them in order.

We verified the cash on hand by actual count and the cash in bank by certificates obtained from the Association's bankers. The following is a statement of the cash balances:

Continental and Commercial National Bank	$ 63,263.09
First Trust and Savings Bank (Treasurer's Account)	265.34
Cash on Hand	756.13
Cashier's Fund	150.00
Total	$ 64,434.56

OPERATIONS

The operations of the Association for the year ended December 31, 1918, are shown in the following statements:

INCOME AND PROFIT AND LOSS ACCOUNT FOR THE YEAR ENDED DECEMBER 31, 1918

JOURNAL:			
INCOME:			
Fellowship Dues			$ 43,100.00
Subscriptions			286,108.43
Advertising			312,440.26
Jobbing			7,605.28
Books			6,007.19
Reprints			4,397.82
Buttons			120.98
Miscellaneous Sales			7,038.88
Interest			2,395.15
Net Recoveries on Bad Debts			1,339.14
			$670,553.13
Expenses, Schedule "1"			497,210.35
Net Income from Journal			$173,342.78
MISCELLANEOUS INCOME:			
Cooperative Advertising Bureau		$ 283.25	
Children's Journal		404.62	
Rent, Building "B"		300.00	
		$	987.87
			174,330.65
Association Expenses, Schedule "2"		$ 61,966.57	
Less:			
Rentals	$ 3,720.00		
Interest on Treasurer's Account	8.72		
Session	87.19		
	$	3,815.91	
		58,150.66	
Miscellaneous Expenses, Schedule "3"		32,952.36	
			91,103.02
Net Gain on Operations			$ 83,227.63

JOURNAL EXPENSES—SCHEDULE "1"

Wages and Salaries	$181,026.75
Editorials, News and Reporting	8,718.21
Paper—Journal Stock	161,863.18
Paper—Miscellaneous	6,721.91
Electrotypes	7,262.78
Binding	728.43
Ink	5,610.58
Postage—First Class	18,959.56
Postage—Second Class	27,391.45
Journal Commissions	5,809.77
Collection Commissions	1,204.71
Discounts	5,991.66
Express and Cartage	3,044.18
Exchange	2,784.07
Office Supplies	1,088.30
Telephone and Telegraph	1,032.89
Office Jobbing	3,417.02
Miscellaneous	11,486.00
Power and Light	3,739.94
Fuel	3,713.18
Factory Supplies	9,691.21
Repairs and Renewals—Machinery	4,985.90
	$476,271.68

Depreciation:

Property and Equipment	Rate	Amount	
Building "B" (New)	5%	$8,393.66	
Machinery	15%	8,185.42	
Furniture and Equipment	15%	1,675.67	
Factory and Equipment	15%	686.55	
Type	15%	658.60	
Metal	20%	1,338.77	
			20,938.67
			$497,210.35

ASSOCIATION EXPENSES—SCHEDULE "2"

Propaganda		$ 7,931.58
Association		25,503.94
Health and Public Instruction		2,440.37
Pharmacy and Chemistry and Chemical Laboratory		13,426.10
Medical Education		9,452.01
Organization		1,817.56
Therapeutic Research		136.44
Laboratory Depreciation—10%		157.29
Building "A" Expense:		
Depreciation, 5%	$ 756.84	
Sundry	344.44	
		1,101.28
Total		$ 61,966.57

MISCELLANEOUS EXPENSES—SCHEDULE "3"

Insurance and Taxes	$ 6,400.50
Legal and Investigation Expense	9,277.87
Building "B" Maintenance	3,575.77
Archives	1,320.58
Cumulative Index	1,880.12
Depreciation, Library	255.60
Directory, Sixth Edition	10,241.92
Total	$ 32,952.36

The audit embraced an exhaustive test of the various sources of income and the verification of the cash disbursements with proper vouchers on file.

We are pleased to report that we found the accounting records to have been kept in the usual good order and that every facility was afforded us for the proper conduct of the audit.

Yours truly,
MARWICK, MITCHELL, PEAT & Co.

Report of the Judicial Council

Dr. M. L. Harris, Illinois, Chairman, presented the report of the Judicial Council, which was referred to the Reference Committee on Report of Officers.

To the Members of the House of Delegates of the American Medical Association:

At the annual session of the Association in Chicago last year, on the recommendation of the Reference Committee on Amendments to the Constitution and By-Laws, the House referred to the Judicial Council the following preambles and resolutions introduced by Dr. W. T. Wootton, of Arkansas:

WHEREAS, We recognize the liberty enjoyed by the practicing physician of today in that he may follow along broad lines in the management of the sick entrusted to his care and that we would not deprive him of one iota of that liberty; and,

WHEREAS, We believe that the mobilization of our Army and the experience of the hospital units show it to be to the best interest of the patient that he receive at all times a more uniform treatment, one recognized and endorsed by the best medical minds of today; and

WHEREAS, At present there is no committee or council within our ranks to give such endorsement; therefore, be it

Resolved, That the President of the American Medical Association, the Chairman of the House of Delegates, with the chairmen of the various sections, be and they are hereby appointed a standing committee to select a Council on Standardizing Surgical Procedures and Medical Practice, the number and personnel to be entirely at the committee's discretion, power being hereby given them to fill vacancies or enlarge said Council as necessity may demand; and further appoint an Advisory Committee to said Council should they desire. Be it further

Resolved, That no action of this Council shall be deemed binding on any physician or surgeon, that no effort shall be made to foster any creed, sect, dogma or other stigma; the object being strictly to weed out fallacies, gather data, and give the profession an unbiased report as to efficacy of procedures in order that we, the rank and file, may not linger in doubt as to what may be considered judicious, conservative practice.

At its meeting held in Chicago, February 5, the Judicial Council carefully considered these preambles and resolutions and after a discussion in which all the members took part, the Council decided that, in the opinion of this body, it is neither advisable nor practical to take action on the suggestions presented by Dr. Wootton. The Council recommends that the House of Delegates shall not constitute the Council suggested.

The Judicial Council is of the opinion that the Constitution of the Association should more exactly define "membership" and "Fellowship." In order to bring this subject before the House in a practical form, the Council submits a revision of

the Constitution. In this revision, except as has been stated, an effort has been made to simplify the wording of the Constitution, but to make no change in sense. (The text of the revision is omitted, as the matter lies over under the 1920 session of the House).

AGE AND DISABILITY INSURANCE

Acting under its authority to "investigate general professional conditions and all matters pertaining to the relations of physicians to one another and to the public," and to "make such recommendations to the House of Delegates and the constituent associations as it deems necessary," the Judicial Council is assembling data relating to Age and Disability Insurance for physicians. The Council, at this time, is prepared to make only a report of progress on this subject. The Secretary of each of the constituent state associations has been asked what, if anything, is being done by that state association or by its component societies, or any of these, with the object of assisting aged and physically incapacitated physicians. Replies have been received from the secretaries of thirty-one of the constituent associations. Many of these responses indicate an interest in the general question, that is, in the development of a plan for providing financial assistance for needy aged or physically incapacitated physicians or dependents of physicians. However, with only a few exceptions, no organized, sustained activities having this purpose in view are being conducted by the organizaton. So far as they have been determined, the following list constitutes the work which the profession, either through branches of the American Medical Association or independent organizations of medical men, is doing: New Jersey reports "a Society for the Relief of Orphans and Widows of Medical Men." The Medical Society of the State of Pennsylvania has a Committee on Benevolence which is doing excellent work in that state. In addition, in Philadelphia, there is an independently chartered organization, the members of which, however, are for the most part members of the American Medical Association, "The Aid Association of the Philadelphia Medical Society." This last-named organization was incorporated in 1878 and has been quietly carrying on an excellent philanthropic work since that time. The physicians in Pittsburgh also maintain an organization devoted to a similar service. The State Medical Association of Texas has a committee which is studying the subject and which reported to the House of Delegates of that Association at the annual session held in May, 1919.

The Judicial Council has been informed that actuarial statistics bear out the following statement, namely: That on the average of 100 individuals entering on a business career at the age of 25, when these have reached the age of 65 years, five of the 100 will be in comfortable circumstances, financially; six will be self-supporting; fifty-three will be receiving financial assistance of some form; the balance will be dead. It should be recognized that these figures are not limited to professional men, but include those from all walks of life. Nevertheless, in the opinion of the Council, they warrant a further investigation and study of the advisability of undertaking some organized effort for the relief of members of the medical profession who are in financial distress because of age or other physicial disability. Should the investigations of the Council warrant it in doing so, a further report will be submitted to the House on this subject at a future annual session.

The Council has deemed it advisable to continue assembling information on subjects relating to Social Insurance. This subject has a definite public health interest, consequently in order to coordinate the activities of the Judicial Council relative to this matter with those undertaken by the Council on Health and Public Instruction, this Council recommended its Chairman as a member of the subcommittee on Social Insurance to be appointed under the authority of the Council on Health and Public Instruction.

DR. JAMES EDWARD MOORE

The Council feels this report would not be complete if it did not convey to the House of Delegates the minute which the Council has spread on its records commemorating the life and service of Dr. James Edward Moore who has served faithfully on the Judicial Council since 1911. The following true copy from the minutes of the Judicial Council is appended:

The Judicial Council with deep regret announces the death of one of its members, Dr. James Edward Moore of Minneapolis, Minn. Dr. Moore was born in Clarksville, Pennsylvania, March 2, 1852. After an illness of six months, he died at Minneapolis, Minnesota, Nov. 2, 1918. He was the son of Reverend George W. and Margaret Ziegler Moore. His preliminary education was obtained in the public schools of Pennsylvania, at the Poland Union Seminary at Poland, Ohio, and the University of Michigan. He took his degree in medicine at the Bellevue Hospital Medical College, New York City, graduating in the class of 1873. After spending two years in the hospitals in New York City, he located in Emlenton, Pennsylvania, where he engaged in general practice for a period of about six years. In August of 1882, he moved to Minneapolis. Then, in 1885, he went abroad to study, spending about two years in the hospitals and medical schools on the continent and in England. On his return to Minneapolis in 1887, he devoted his entire time to surgery, and was one of the first practitioners west of New York to strictly limit his practice to a specialty.

When the Medical School of the University of Minnesota was established in 1888, Dr. Moore was associated with the movement. He was appointed chief of the Department of Surgery in 1908. He retired from active practice in 1915 to devote himself entirely to teaching and the work of the surgical clinic in the University Hospital.

He was a member of the American Surgical Association, vice-president in 1905; of the Western Surgical Association, president in 1903; of the Southern Surgical Association, and a Fellow of the American College of Surgeons, a member of the Board of Governors. He was also a member of the Societe Internationale de Chirurgie. He was a member and a Fellow of the American Medical Association, chairman of the Section on Surgery, General and Abdominal, in 1903, and a member and vice-chairman of the Judicial Council since 1911. His service on the Judicial Council of the American Medical Association proved Dr. Moore to be a man of strong personality. His confrères in the profession revere his memory because of the quiet but none the less firm influence which he exercised in the development of professional character and ability, especially in younger practitioners, not only as the head of the department in Surgery at the University of Minnesota, but also in other relationships. Dr. Moore was a man of rugged honesty, innate kindliness, and noble unselfishness.

Respectfully submitted,

M. L. HARRIS, Chairman,
H. A. BLACK,
RANDOLPH WINSLOW,
WILLIAM S. THAYER,
A. R. CRAIG, Secretary.

Report of the Council on Health and Public Instruction

Dr. Victor C. Vaughan, Michigan, Chairman, presented the report of the Council on Health and Public Instruction, which was referred to the Reference Committee on Reports of Officers.

The report follows:

To the Members of the House of Delegates of the American Medical Association:

As stated in last year's report, the Council during the war was limited to routine work, as its entire membership was in public service. The absorption of the public in the war made anything else impossible. The members of the Council are now returning to private life. The Secretary was discharged from the Medical Department of the Army, Dec. 15, 1918, and resumed his work as executive officer of the Council. Dr. Cannon returned from France and was discharged early in 1919. Dr. Board is still in the service. Early in December, the President of the Association, Dr. Arthur D. Bevan, notified the Secretary that Dr. Ludvig Hektoen had resigned as a member of the Council and that he had appointed Dr. Victor C. Vaughan of Ann Arbor to fill the vacancy. By mail vote of the Council, Dr. Vaughan was elected Chairman, Jan. 19, 1919. He was discharged from the Medical Department of the Army in February and resumed his work as Dean of the Medical Department of the University of Michigan.

The break in the work of the Council for nearly two years, owing to diminished appropriations on account of war conditions, the absence of the Secretary and of most of the members of the Council in active service and the almost complete diversion of public interest to war topics, offers a favorable opportunity not only for summarizing and estimating the activities of the Council during the nine years of its

existence, but also for the formulation of plans for the future.

The Council on Health and Public Instruction was organized at St. Louis in 1910. During the reorganization period of the Association from 1902-1910, many independent committees had been created, dealing with closely related subjects but without any coordination or definite division of functions or jurisdiction. At the 1909 session, the section on hygiene and sanitary science asked the House of Delegates to create a permanent council on these subjects. The Reference Committee, to which this request was referred, called attention to the close relation existing between public education, medical and public health legislation and the development of hygiene and sanitation and recommended the appointment of a committee to consider the advisability of combining the functions of legislation, public instruction, organization and public sanitation in a permanent council. This committee was appointed and reported the following year, recommending the establishment of such a permanent council. The Council on Health and Public Instruction was accordingly created and appointed in June, 1910, and held its first meeting and organized in July of the same year. In it were merged the old committees on Medical Legislation, Public Instruction on Medical Subjects, Defense of Medical Research, Organization, Uniform Regulation of Membership, Visual Standards of Pilots, Public Health Education, Prevention of Blindness and Postgraduate Study. In 1911, the work of the Council consisted of the promotion of the work of Dr. J. N. McCormack, at that time engaged in organization work for the Association; in the development of a series of fifteen pamphlets on the Defense of Medical Research, which, in additon to thirteen already published, formed a standard series of twenty-eight monographs on this subject; in the development of a bureau on medical legislation by which it was hoped some of the problems in this field could be solved and in studying the problem of public education by state boards and other agencies through popular pamphlets.

The next session, in 1912, the Council reported that a Press Bureau had been organized and conducted during the past year, by which regular press bulletins had been sent to approximately 5,000 daily newspapers each week, the Speakers' Bureau had been organized and in the three months of its existence had supplied speakers for forty-four meetings; nine pamphlets on various public health subjects had been prepared, printed and distributed; a Handbook for Speakers on Public Health had been compiled, printed and distributed to the speakers of the Bureau. The Council also reported the organization, through cooperation with the National Electric Light Association and the American Institute of Electrical Engineers, of the Committee on Resuscitation after Electrical Shock; of the appointment, in cooperation with the National Education Association, of a Joint Committee on Health Problems in Education; of a Joint Committee on Medical Expert Testimony, consisting of representatives of the American Medical Association, the American Bar Association, the Commissioners on Uniform Laws; of a Committee on Rural Sanitation consisting of representatives of the American Medical Association, the Association of Railway Surgeons and the Conference of State and Provincial Boards of Health; of a Committee on Vital Statistic Legislation consisting of representatives of the American Medical Association, the American Public Health Association, the American Bar Association, Commissioners on Uniform Laws and the Bureau of the Census. In addition the Council had done much work along legislative lines and had represented the Association in a campaign for the establishment of a national department of health.

In 1913, the Council reported the continuation of these activities, showing that speakers had been furnished for 213 meetings during the year; that fourteen pamphlets had been prepared and distributed and that the various subcommittees of the Council had been functionating successfully during the year. A Committee on Resuscitation from Mine Gases, as the successor of the Committee on Resuscitation after Electrical Shock, had been created at the request of the Federal Bureau of Mines. These two committees had standardized the methods of artificial respiration and the treatment of the drowned and those suffering from gas, electric shock, etc.

In 1914, after four years of existence, the Council presented to the House of Delegates a definite program, in which it endeavored to formulate the duties and activities of the organized medical profession in the public health field. In outlining such a program, the Council assumed that the primary object of its existence was to place before the profession and the public of the United States the objects, purposes and work of the organized medical profession as represented by the American Medical Association and its constituent state and component county societies, so as to secure public support and endorsement of our efforts for the improvement of public health conditions in the United States. Three general lines of action were accordingly recommended. These were:

1. A thorough investigation of present public health conditions in the United States with the view to securing more accurate information on all phases of the public health problem than is now available.

2. Education of the public by every possible means in order that the people may understand the enormous advances in scientific medical knowledge during the last generation and the possibilities of utilizing such knowledge in the prevention of disease, the reduction of the death rate and the prolongation of human life.

3. The crystallizing of such educated sentiment in necessary public health laws which will render possible the conservation of human life commensurate with our advancing knowledge and will render such laws effective through the only force available in this country, namely, educated and enlightened public opinion.

Under the first head, namely, the investigation of the present public health situation, need for additional knowledge was subdivided into four classes, namely: (*a*) public health activities of the federal government; (*b*) state public health activities; (*c*) municipal health organization; (*d*) voluntary public health organization.

Under the second head, the education of the public, the Council reported the continuation of the Press Bureau, forty-two bulletins having been sent to 4,900 newspapers at a total cost of approximately $2,300. The Speakers' Bureau had been maintained during the year, speakers had been furnished for 133 meetings at a total cost of approximately $1,900, and a standard set of public health pamphlets had been prepared and published for the use of state boards. In addition a series of twenty pamphlets on Conservation of Vision had been prepared and issued by the subcommittee on this subject. This set of pamphlets has remained in use ever since and has been recognized as a standard in this field. A series of six pamphlets on cancer and its prevention had also been prepared and published. The total number of pamphlets issued during the year was 57,250.

In 1915, the Council reported the continuation of its program, particularly the carrying on of a comparative study of state public health activities by Dr. Charles V. Chapin, health commissioner of Providence, Rhode Island, as the special representative of the Council. Dr. Chapin's report was the first effort to collect data on state health activities with a view to the ultimate standardization and classification of state public health work. Regarding voluntary public health activities, the Council endeavored through a conference of representatives of the various voluntary organizations held in New York on March 13, 1915, to coordinate the numerous organizations in this field.. Along educational lines, the Council reported that, at the direction of the general manager, the mailing list of the Press Bulletin had been reduced to 2,200. Owing to the limited appropriation the amount available for the Speakers' Bureau had been limited to $1,000. For this amount speakers had been furnished for 151 meetings, an average expense of $9.80 a meeting. During the year 285,400 pamphlets have been printed and distributed.

In 1916, the Council reported further development of its program including the publication of Dr. Chapin's Report on State Public Health Work, with a rating sheet of the forty-

eight state health organizations showing their comparative standing in different lines of state public health work, their appropriations, expenditures, etc. A preliminary edition of 1,000 copies of this report was distributed to members of state boards of health and officers of the Association for criticism and suggestions and the Council expressed the hope that at the end of two or three years a second survey might be made for confirmatory and comparative purposes. Owing to reduced appropriations, the Press Bulletin had been suspended, and the plan of the Speakers' Bureau had been modified by asking local organizations to pay the expenses of speakers instead of having these expenses borne by the Association. During the year, 1,133,500 pamphlets had been printed and distributed. Cooperative work had been carried on through the Elizabeth McCormick Memorial Fund and the dry-goods stores of the country for child welfare.

Before the next meeting of the Association, the United States had entered the world war. The New York meeting found all of the members of the Association largely absorbed in the war activities of the nation and the profession. The 1918 meeting showed a large proportion of the officers and members of the Association in uniform and in some field of active service. This condition continued up to November, 1918, and has been more or less true during the entire year, the medical officers being discharged slowly and returning to their civil activities. At the time of writing (April 23, 1919) there are still nearly 20,000 medical officers in the service. It will probably be the middle of summer or the early fall of 1919 before the medical profession is demobilized.

It becomes necessary, therefore, in planning for the reconstruction of the activities of the Council to reconsider the plans previously proposed and endorsed by the House of Delegates at successive sessions and to discuss them in the light of the actual accomplishments of the Council and its subcommittees. Regarding the general plan of public education carried on for a number of years through press bulletins, Speakers' Bureau, public meetings, distribution of pamphlets, leaflets, etc., these methods, while largely new at the time they were inaugurated, have been taken up by other organizations. It has been the policy of the Council not to undertake work that was being done by other organizations nor to attempt to compete with other organizations carrying on public health work, the desire of the Council being to inaugurate work that could not well be undertaken by other bodies and to coordinate existing organizations by drawing them together for a common purpose rather than to create or perpetuate any rivalry between existing organizations. It seems evident that the propaganda period in public health work is past. Many of our national health organizations, either special or general, as well as many of our state boards of health are now sending out press bulletins and much suitable health material is now being supplied to newspapers. It is, therefore, doubtful whether anything would be gained by the reestablishment of the Press Bureau. In fact, it seems highly probable that the continuation of this work can be safely left to special organizations.

The same thing is true regarding the Speakers Bureau. A large number of organizations, either local, state or national, have followed the lead of the American Medical Association in this particular in the last five years. It is especially doubtful whether with the limited resources of the Council it would be advisable to attempt the financing of speakers' expenses. As frequent requests for accredited speakers on public health topics continue to come to the Association headquarters, however, it would be advisable to prepare and maintain a list of representative physicians, members of the Association and recognized authorities on some phase of public health work who are willing to give public addresses on various occasions. In the great majority of cases, the local committees of organizations desiring speakers are perfectly willing to pay the necessary expenses of the speaker so that no appropriations for this purpose would be required. It is desirable, however, to prepare and issue each year a carefully selected list of speakers who are willing to fill a limited number of engagements and to distribute this list to women's clubs, local health organizations and other bodies desiring to secure speakers on some public health topic.

Regarding the distribution of pamphlets, this department of the Council's work, as shown by the summary included herein, has practically become self-supporting. By making a nominal charge for these pamphlets, especially when supplied in quantities, the money thus secured can be used over and over for printing educational material. Having once been prepared and stereotyped, the cost of printing involves only the cost of paper, ink, press work and labor. The complete list of pamphlets appended shows the scope of this line of work. This list can be with advantage considerably increased by the preparation of such pamphlets as are needed for the better education of the profession and the public. Several new pamphlets are now under consideration.

The increasing number of organizations interested in public health work accentuates the fact brought out by Pres. George E. Vincent of the Rockefeller Institute in his address before the American Public Health Association in December, 1918, that one of the most important needs in the public health field today is that of increased knowledge of public health conditions. Our knowledge even on fundamental health questions is fragmentary and in many cases based on insufficient foundation. Public health leaders are coming to recognize that improved conditions in the public health field cannot be brought about wholly by legislative enactment; that restrictive laws have only a limited value; and that the more accurate and complete our knowledge, the better can health conditions be controlled and improved through public sentiment rather than through restrictive legislation. Especially is it of the utmost importance that the American Medical Association, as the recognized official body of the American medical profession, should have clearly defined objects and purposes and should know definitely and accurately just what it is trying to accomplish and along what line its energies are to be exerted. Of the four general subdivisions found in the program of the Council as outlined in 1914, none of them has as yet been carefully or exhaustively studied. The fourth class, namely, voluntary public health organizations, is in practically the same condition as five years ago in spite of constant efforts to secure better coordination and cooperation. The American Public Health Association has recently taken up this question and has organized a Council composed of representatives of a number of the fifty-seven different national public health organizations in existence with a view to securing some kind of harmony and cooperation in this field. The creation of unnecessary organizations cannot well go much farther. The probable outcome will be the absorption of a large number of organizations by some single comprehensive body in the next few years. Whether this will come about by the occupation of this field by the American National Red Cross following its reorganization after the war or by the organization of some new general public health organization along popular lines remains to be seen. It is extremely doubtful, however, whether the Council or the American Medical Association can at present do very much to clarify this situation. It is also doubtful whether the purely educational activities of the Council can at present be enlarged to any great extent with any degree of success. There remains, therefore, one field in which the Council and the Association are preeminently fitted to exert themselves, namely, the increase of knowledge regarding organized public health activities.

In its report for 1914, the Council said, regarding the need of a careful study of the public health work of the federal government with a view to determining exactly what the federal government is doing and can do for public health: "The need for such an investigation hardly needs more than to be stated. The American Medical Association stands unreservedlly pledged to the securing at the earliest possible moment of an adequate national health organization. In the discussion of this subject . . . a lack of accurate and complete information regarding present health activities on the part of the federal government has been apparent. Extreme claims have been made on both sides, one set of advocates asserting that the United States government was doing more

for public health than any other national government in the world, the other asserting that practically nothing was being done by our government which could compare with the health activities of European nations. Such a condition is not credible to a scientific organization."

This statement is as true today as it was five years ago. In addition, no careful study has ever been made, from a legal standpoint, of the exact limitations of the federal government along public health lines. What can the national government do under the constitution for public health? No one is today in a position to answer this question authoritatively. As a result, bills are drafted and measures proposed that would probably, if adopted, be unconstitutional, while such measures as the Harrison Narcotic Law, a law intended solely for the improvement of public health conditions in a broader sense, are passed ostensibly as revenue measures and are later by amendment converted into revenue producing measures with serious injustice and inconvenience to law-abiding physicians. If Congress has the power to regulate the sale of habit-forming drugs for the public good, then it is not necessary for Congress to pass such measures under the guise of revenue laws which after their passage are distorted and misconstrued by federal officials into unfair and inequitable revenue producing measures. This country will never have a federal department of public health such as has been advocated rather vaguely for fifty years past and such as is now being strongly advocated in England, Canada, Australia and other nations until the public health functions and powers of the federal government under the constitution have been definitely determined. Two questions must be answered: First, what can the federal government do for public health; and second, what is the federal government now doing for public health. These questions are not at present being considered by any other organization, yet their solution is fundamental to the development of public health in this country. They are problems to which the American Medical Association can fittingly and properly direct its attention. Having secured some authoritative information on these two questions, we will then be able to put the influence of the American Medical Association behind an intelligent movement for a national health organization. Correspondence has already been inaugurated with officials and influential members of the American Bar Association, looking toward the creation of a joint committee on the Constitutional Limitations of Federal Public Health Work.

Regarding the second field for investigation, that of state public health activities, the report of the Council in 1914 said, "There is today in every state in the Union some form of public health organization. Owing to our form of government, each of these organizations is working independently. As the reports of the various state boards are not made on a uniform basis, a comparison of their various activities and a tabulation of the results secured by their efforts are difficult. It is, therefore, practically impossible today to summarize the public health work which is being done by the different state boards of health, to compare one with another or to establish any standards by which their relative merits may be determined. The first necessity for such a comparative study is clearly a collection of authoritative official data on the subject." The report of Dr. Chapin, published by the Council and distributed two years later, is the only effort that has been made to obtain a comprehensive view of this field. The large number of requests that have been received for the limited edition of this report shows the value of such a study. The great majority of state board members and secretaries accepted this report for what it was intended to be, namely, an effort to secure, digest and tabulate authoritative, official information regarding state board of health activities with a view to showing the relative strength and weakness of public health work in each state, and thereby aiding the state health boards and secretaries in securing better laws and larger appropriations. It was not intended in any sense as a criticism of existing boards or of public health officials. In fact, in many cases it showed clearly that excellent results had been secured by state board secretaries under difficult conditions with small appropriations and limited powers. In a few instances, the statements made in the report or the conclusions drawn by Dr. Chapin were resented by sensitive state officials, in spite of the definite statement in the introduction that the object of the publication was not in any sense due to a desire to be either critical or dictatorial, but rather to present in tabulated form the essential facts regarding state public health work; in the hope that this material would be of service to state boards of health and executive secretaries in presenting to governors, legislators and executive committees a clear statement of the facts regarding public health work in each state, in order that the rating sheet might be of value in pointing out the weak points in each state by the strengthening of which the relative standing of the state in the public health field might be raised. The criticism and opposition encountered was of exactly the same character as that shown in the first years of the work of the Council on Medical Education by medical colleges found to be deficient in equipment, personnel or administration. This is to be expected in any such work and the arousing of such criticism is only an evidence of the value and necessity of the survey. With increasing interest in public health in all its phases, the increasing demands on state health organizations by the public and the enormously increasing opportunities for service that have developed during the past five years, it is more than ever desirable that this field should be more carefully, critically and persistently studied and discussed than has been the case heretofore. Here again no other organization has shown any disposition to take up this line of work. The federal government obviously will not undertake it and it is not desirable that it should since any investigation that it might carry on would necessarily be of an official character. Here again the parallelism with the work of the Council on Medical Education is apparent. The reason why the classification and standardization of medical colleges by the Council on Medical Education has been so brilliantly successful is that the Council had no legal standing or authority of any kind and assumed no such authority, restricting its efforts to collecting, tabulating and publishing the facts regarding medical colleges, leaving to public opinion, both in the profession and among the laity, the task of enforcing the findings of the Council.

In the third field of health activity, namely, municipal health organization, a still greater need for careful study exists. While there are only forty-eight states, each differing as to size, population, physical characteristics, material resources, industrial conditions and public health needs, there are 325 cities of over 25,000 with all possible varieties of health organization. Yet there is no basis of comparison by which it can be determined what form of health organization is best adapted for a city of 25,000, 50,000 or 100,000; how the health organization and the administration in one city compares with another; what the legitimate expense of proper health administration in a city of a certain size should be; what the functions properly undertaken by a city health department should be or how these should be related to a state health organization; or whether or not the people of any city are receiving an adequate return for the amount of money paid out for health purposes. For the city that desires to improve its health organization or to establish one de novo, there is no information as to what kind of health organization such a city should have; what should be its personnel or equipment; how much money should be appropriated; or what duties or activities should be imposed on it. An effort has been made by the American Public Health Association in the last few years to discuss this question and to formulate some general principles. No comprehensive study of the question, however, has as yet been made. The plans of the Council provide for a comparative study of the health organization and activities of our various cities in the hope of being able to establish standards for such work for groups of cities of different sizes, to compare the public health work done in our leading cities and by such standardization and comparison to stimulate and encourage better health organization in our American municipalities.

Another task taken up by the Council was a study of the legal relations and responsibilities of physicians and the legal

aspects of public health. This field, for obvious reasons, has never been carefully studied either by physicians or lawyers. It offers no prospect of financial reward to lawyers and it is only of interest to physicians so far as their personal interests are involved in some specific case. The Secretary has for many years collected a large amount of material on this subject. One volume of a proposed four-volume set was issued in 1915, namely, "Digest of Supreme Court Decisions on Medical Practice Acts," in which were indexed 752 court decisions on this subject, 396 of which were abstracted. Work was begun and nearly completed on the second volume, "A Digest on the Medicolegal Relations of Physicians," for which approximately 1,800 supreme court decisions were collected and abstracted. This work can probably be completed and prepared for publication in a few months. In the field of malpractice, there are probably 1,500 cases on record which have gone to courts of last resort for opinions, while on the fourth subject, "The Powers and Duties of State Boards of Health," there are approximately 800 decisions on record. This work should be completed and published, as it comprises material that is not available in any other form nor through any other agency.

Summing up the program of the Council submitted to and approved by the House of Delegates in previous reports and eliminating those activities that have been taken over by other agencies or that time and experience have shown not to be desirable of development, we find that there remains the following work definitely belonging to the Council:

1. The routine work of the Secretary's office, consisting of the preparation, printing and distribution through all available channels, of public health educational literature, of the coordinating, so far as possible, of other public health organizations through interlocking committees; of the representing of the American Medical Association in the public health field and in various conventions, conferences and meetings; of the carrying on of the routine correspondence of the Council, including the furnishing of information on all available public health topics to physicians and laymen interested; and of the maintenance and distribution of a speakers' list, from which can be secured speakers of professional standing for public occasions of all kinds.

2. The completion of the medicolegal work begun, involving the publication, first of the "Digest of Supreme Court Decisions on the Medicolegal Relations of Physicians"; second, of the "Digest on Powers and Duties of State Boards of Health"; and third, of the "Digest on Professional Responsibility and Malpractice."

3. A study of (*a*) federal public health activities and limitations, (*b*) state public health activities and organizations, (*c*) municipal health organizations, with a view to presenting to the public and the profession the facts regarding existing conditions and the lines in which practical and feasible reforms and advances in this field can be carried out and the use of the influence of the Association and profession to secure such reforms.

The development of this program will necessarily be limited to the Council's resources, which again will be dependent on the appropriations made for this purpose by the Board of Trustees, which in turn will be necessarily limited to the financial resources of the Association. It will probably be necessary for the Council to take up these different lines of work successively rather than simultaneously and to undertake one thing at a time, completing that work before another line of activity is undertaken. The program outlined above, therefore, will probably involve a number of years. It is submitted herewith to the House of Delegates as a tentative program for criticism, modification or approval as the House of Delegates may see fit.

Increased Taxation Under the Harrison Law

During the past year the registration tax for physicians under the Harrison Law has been increased from $1 to $3. You are all familiar with the history of the passage of this law. Enacted by Congress to carry out our international obligations in compliance with the recommendations of the Shanghai Commission on the Control of the Opium Traffic, it was put in the form of a revenue measure simply to give Congress jurisdiction. The Journal and the American Medical Association cooperated heartily and cheerfully in securing the passage of this measure. The medical profession of the country as a class accepted the imposition of a nominal registration tax and the inconveniences connected with the operation of the law as necessary accompaniments of any practical plan for the control of illegitimate traffic in habit-forming drugs. In the revenue bill for 1918, however, a new tax schedule was provided increasing the tax on physicians from $1 to $3. This is simply an effort on the part of the Department of Internal Revenue to make a revenue-producing measure out of what was originally and legitimately intended for a restrictive law for the public good. The law will not be any more effective in its operation under a $3 tax than it was under a $1 tax while it will impose an additional burden of about $300,000 on physicians. The only justification of the law is the public good. The expenses of its administration should be paid out of the public funds and not out of a special tax levied on one particular class. While the increase in the amount of the tax might be justified as a war measure, now that the war is over there is no possible justification for it. The Council, therefore, recommends that the House of Delegates record its emphatic disapproval of this unjustifiable attempt to exploit physicians and that it demand the reduction of the registration fee for physicians to a nominal amount.

Vital Statistic Legislation

Probably the most successful, in fact the only successful, effort that the American Medical Association has made in late years to influence legislation is now happily nearing completion. Although the Association very early in its history recommended the passage of suitable laws in the different states for the registration of births and deaths, nothing effective was done on this subject until 1906. At that time the registration area for deaths established by the Federal Bureau of the Census consisted of only ten states, namely, New England, comprising Maine, Vermont, New Hampshire, Massachusetts, Rhode Island and Connecticut, and New York and New Jersey in the east with Michigan and Indiana the only other states represented. The difficulty had been that legislation on this subject had been left entirely to state initiative and any laws that might be adopted by the different states were so divergent in principles and details as to make any adequate compilation of birth and death reports for the different states impossible. Dr. Cressy L. Wilbur, at that time chief statistician of the Division of Vital Statistics of the Bureau of the Census, had become thoroughly discouraged and was about ready to give up any further efforts for better conditions. Yet the importance of vital statistics legislation as underlying any adequate and efficient state health organization was apparent. It seemed evident that the passage of a model standard law on this subject by each state was absolutely fundamental to public health progress. Accordingly this matter was taken up by the Committee on Medical Legislation, one of the forerunners of the present Council. The newly adopted Pennsylvania law which had been very carefully drafted was taken as a model. A Joint Committee was organized through cooperation with the American Public Health Association and a model bill was drafted, this being one of the few subjects on which it is possible to draft a standard bill suitable for adoption by every state. Endorsement of the model bill was then secured from the American Medical Association, the Federal Census Bureau, the American public Health Association, the American Statistical Association, the American Bar Association, the American Federation of Labor, the National Conservation Congress, the General Federation of Women's Clubs and other national organizations interested. A plan was adopted involving the selection of not more than two or three states each year, the education and stimulation of public opinion by the distribution of pamphlets, editorials and other material for a year or more previous to the introduction of the bill, the arousing and coordinating of all the organizations and interests in the state and in general the creation of a real public sentiment in favor of suitable legislation.

The result has been most gratifying. Year by year one state after another has fallen into line, until at present there are only five states in which present legislation on vital statistics is unsatisfactory and only two in which no legislation exists. The five states possessing unsatisfactory laws are South Dakota (in which, through one of the occasional freaks of state legislation, the registration of births and deaths is in charge of the secretary of the State Historical Society instead of the State Department of Health), Iowa, Alabama, West Virginia, and Delaware, in which the obsolete and generally discredited system of collecting and registering births and deaths through the county clerk is still followed. Comparatively slight amendments to the existing laws in each of these five states would give them a modern and effective system of vital statistics. The only two states remaining in which no legislation on this subject exists are Arizona and Nevada, both of them comparatively new western states in which satisfactory health organization is still to be effected.

The passage of the model law in Arizona and Nevada is most desirable. Such action would be of the greatest value, not only in completing the registration area for births and deaths and securing uniform legislation on this subject for the entire country, but also as a demonstration of the value of concerted, systematic and long-continued efforts for effective health legislation. The Council requests the House of Delegates to reaffirm its endorsement of the model law and to urge the state associations in Alabama, Arizona, Delaware, Iowa, Nevada, South Dakota and West Virginia to take the lead in educating public opinion in these states and to endeavor to secure at the next session of their legislatures the enactment of the model law or the adoption of such amendments as will bring their states into the Registration Area.

Social Insurance

During the war the work of the Social Insurance Committee was necessarily discontinued in common with that of the other committees of the Association. Early in 1919, Col. Alexander Lambert returned to this country and the work of the committee was again taken up. It was reorganized by the appointment of Dr. M. L. Harris of Chicago, Dr. S. S. Goldwater of New York and Dr. Frederick Van Sickle of Olyphant, Pa., as members of the committee, Dr. Lambert remaining as chairman. The committee presents an extended report on this subject which appears as a supplement to the Council's report and will be presented by Dr. Lambert.

The introduction during the last two sessions of our legislature of bills providing for health insurance and the appointment of commissions to study this subject in a number of states, notably California, Illinois, New Jersey, New York, Ohio, Pennsylvania and Wisconsin, and the introduction of a bill in the New York legislature, all combine to make this question one of the vital issues now before the medical profession. No state has as yet adopted social insurance. In New York the bill endorsed by Governor Smith passed the senate but failed to pass the house. In California, the bill recommended by the state commission was on referendum defeated by a large popular vote. In Wisconsin, the commission reported against the proposition. In Ohio, the commission was in favor of limited social insurance. In Pennsylvania and Illinois, the commission recommended a continuation of its activities and further study of the question. The growing interest shown in this subject during the last two years, however, makes it all the more important that careful attention should be given to it by physicians, both as individuals and as a profession. The attitude of the majority of physicians up to date has been one of unqualified and often unreasoning opposition, without any effort to study the question or to consider the arguments put forward in favor of the proposed plan. Unreasoning opposition or sweeping and often erroneous general arguments against the measure will not prevent its adoption nor will it enhance the influence of physicians. It is of the utmost importance to the medical profession at present that we give this question the most careful, painstaking, patient and disinterested study, that we qualify ourselves as authorities instead of allowing this function to be exercised by the active proponents of social insurance. To this end it is particularly necessary that we study this question dispassionately and critically, discriminating between fundamental principles and nonessential details.

Discarding for the time being the mass of administrative and actuarial data which has accumulated regarding the operation of social insurance laws in Germany, England and other countries and reducing the proposition to its essentials, the problem is seen to be not by any means as complicated as is generally supposed. Stated categorically, it may be expressed somewhat as follows:

1. There is in this country a certain amount of illness among those whose gross annual income is below an amount that will permit them to bear the expense of such disabling and incapacitating illness without being seriously and perhaps permanently handicapped or crippled thereby.

2. Such disabling and crippling illness being conceded, if the individual is not able to carry it alone, then the burden must be lightened in some way. This can be done by increasing the income of the individual and thus elevating his economic status to a point where he can carry his own burden; by reducing the amount of sickness through the enlarging and improving of state public health activities; or by distributing the cost of existing disabling illness among the three parties at present responsible, namely, the individual, the industry and the state, so as to relieve the individual of from 60 to 80 per cent. of his burden. A fourth possible procedure, not exactly to be regarded as a remedy, but as a possible line of action is the *laissez-faire* principle of permitting existing conditions to continue and remedy themselves if possible without interference. The first of these proposed plans might be called the economic remedy; the second, the state public health remedy; the third is social insurance, and the fourth is no remedy at all.

In this discussion, many questions arise that cannot be answered with our present knowledge. What is the amount of sickness incurred by the average wage earner in the course of the year? How much of a burden is this to him and to his family, through loss of wages, medical attendance, nursing and care, incapacity or reduced productiveness consequent on illness, nonemployment resulting from illness, etc.? What is the average amount which the individual loses each year through sickness? How much of this loss is due to preventable disease which can be eliminated by increased state health activities and by the better organization of health agencies? What is the minimum annual income that will enable the individual to carry successfully the burden of his own disability? How many American families have an income below this minimum? If the first remedy proposed, that of increasing the annual income to a point where each individual can carry his own burdens, seems best, how is this desired object to be accomplished? If the second remedy is adopted, namely, increase of governmental health activities to a point where preventable disease is reduced to a minimum, how large a burden of nonpreventable disease will remain? Will not the increase of governmental health activities to such a point produce just as marked and radical a change in the medical profession as the proposed health insurance? What effect will the plan proposed have on the work and income of physicians? Without providing for the unemployed and the indigent, who would still, as in England, have to be cared for under poor laws and charity organizations, would not the increased professional income from care of the insured, whom the doctor today takes care of for little or nothing, increase the average professional income, provided the compensation for professional services could be properly determined? Would not this increase amount to more than the loss due to lowered rates? If the proposed social insurance can be shown to be necessary and to be the best solution of the problem involved, can the medical profession as a class successfully oppose it simply on the ground that it may interfere with or disturb our professional income and livelihood?

These are a few of the questions which must be answered satisfactorily in the discussion of this problem. They can be answered only by physicians who have made an effort to acquire some knowledge of the subject and to discuss it impartially rather than from the standpoint of their own prejudices. There is today no subject in the field of social medicine that deserves and will require more careful, exhaus-

tive, dispassionate and unprejudiced study than social insurance, or that will, whatever the final conclusions, demand greater tact, diplomacy and good judgment in practical handling. It is, therefore, of the utmost importance that physicians both as individuals and organizations abandon the attitude of unreasoning opposition which has characterized many of our professional discussions on this question and make an honest effort to study the problems involved and to arrive at conclusions which can be justified. For these reasons, the report of the Subcommittee on Social Insurance is this year of the greatest importance and value and is commended to your special attention. By the end of another year the question may and probably will be a vital issue in a number of states. It is highly important that we improve the interval by learning as much on this question as possible.

A tabulation of the literature published by the Council in the last five years, together with the reports of the various subcommittees of the Council which appears in the official report is here omitted.

Respectfully submitted,

VICTOR C. VAUGHAN, Chairman.
HENRY M. BRACKEN.
WALTER B. CANNON.
WATSON S. RANKIN.
MILTON BOARD.
FREDERICK R. GREEN, Secretary.

REPORT OF SUBCOMMITTEES OF THE COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

REPORT OF COMMITTEE ON WOMEN'S AND CHILDREN'S WELFARE

To the Council on Health and Public Instruction:

Throughout the past year our committee has found its chief activity in cooperating with the state chairmen of the General Federation of Women's Clubs, and with the work of the Children's Bureau in the Children Year program executed through the Child Welfare Committee of the National Council of Defense.

The program submitted for use in the various state child hygiene committees of the General Federation embraced two divisions: general care of the mother and child under the stress of war conditions, which included the survey of our child power made possible through the nation-wide measuring and weighing test; and insistence on adequate vital statistic laws. Late in the year the following questionnaire was sent to all the state chairmen of public health committees:

CHILDREN'S YEAR PROGRAM

1. How many counties of your state have Child Welfare chairmen?
2. What was the approximate number of counties that conducted the weighing and measuring test?
3. Have you conducted previous measuring and weighing tests, either according to A. M. A. or other score cards?
4. Have the Federal Bulletins on Infant Care, Prenatal Care, and Milk been distributed in your state?

BIRTH REGISTRATION

1. Do your birth registration laws place you in the birth registration area?
2. If so, how long have you had these laws?
3. If not, what measures is your committee in the state federation taking to secure these laws?

SOCIAL EDUCATION

1. Is your Child Hygiene Committee actively cooperating with the Adult Hygiene Committee, concerning the effect of social diseases on child health?
2. Will your State Child Hygiene Committee consult with the National War Council with regard to a state campaign on social education, as related to child welfare?

(600 Lexington Ave., New York City.)

It is too early to give results from this questionnaire, but it is hoped they may be of sufficient value to submit later in the year.

In connection with the children's year program we have strongly urged the establishment of permanent child welfare stations as the most effective plan to follow the measuring and weighing tests. In some states the child welfare officers of the Council of Defense are being made into permanent child welfare committees. It is our intention to issue a form letter to all states urging the formation of these committees, hoping that this will lead to securing child hygiene departments in state boards of health.

Wherever permanent stations have been established we have recommended, and in many instances placed, the A. M. A. score cards and pamphlets. Throughout the whole measuring and weighing test pamphlet No. 5 was distributed in great numbers. We are also putting our plans and material into state fairs all over the United States and permanent departments.

Our plans for the ensuing year include a continuance of our cooperative and advisory work with the Children's Bureau and the General Federation, and a revision of No. 5.

Respectfully submitted.

LENNA L. MEANES, Chairman.
M. L. TURNER, Secretary.

Report of the Council on Medical Education

Dr. John M. Dodson, Illinois, Chairman, presented the report of the Council on Medical Education, which was referred to the Reference Committee on Reports of Officers.

The report follows:

To the Members of the House of Delegates of the American Medical Association:

The Council on Medical Education has now been in existence for fifteen years and during this time the work has undergone a marked development along normal lines. The following concise review not only shows what has been accomplished, but also points out the importance of the work which remains to be done.

I. COLLECTING OF INFORMATION

(*a*) *Medical Education.*—Files containing an abundance of information regarding medical education have been established. These contain as complete a set of medical college announcements and alumni lists as it has been possible to obtain. Reports from medical schools in regard to educational standards, students and graduates, and the names and detailed information in regard to graduates have been obtained each year. The annual report of the Council based on these reports is published in August each year in the Educational Number of THE JOURNAL.

(*b*) Intimately related to medical education come the data in regard to medical licensure. Reports each year have been obtained from state licensing boards showing the successes and failures of medical school graduates at the various examinations. The annual report of the Council giving statistics based on these reports is published in April each year in the State Board Number of THE JOURNAL.

The data, referred to in (*a*) and (*b*) above, constitute the basic information for the biographical index of physicians and for the American Medical Directory, which are now maintained under the direction of the Secretary of the Council on Medical Education.

(*c*) Copies of medical practice acts have been obtained each year. These have been published verbatim in the Annual Medical Directory. Abstracts of these laws and of the rules formulated by the various boards regulating the registration of physicians are published in a small book of "Laws," new editions of which are published two or three times each year. This book includes also data regarding requirements regulating the practice of medicine in foreign countries, lists of medical schools both at home and abroad, special information in regard to reciprocity and other information of value. This book, therefore, has developed into an important "blue book" giving

information in regard to standards of medical education and licensure.

(*d*) Prior to 1909, detailed information in regard to medical students was not obtained until the year they came up for graduation. The Council was then impressed with the importance of securing the necessary detailed information at the time the student matriculated. A Medical Students' Register has been maintained since 1910 and in this work the Council has had the most gratifying cooperation on the part of deans of medical colleges. The information obtained includes a report of all new students admitted each year and a report from each individual student giving the date of birth and a complete educational history. The information is kept on cards and as soon as the student has graduated and obtained his license this card is transferred to the biographical index and the data regarding the graduate is included in the next edition of the American Medical Directory.

II. Annual Conferences

What was probably the most effective procedure in the Council's work was the Annual Conference on Medical Education and Licensure which has been held every year since 1904 when the Council was created. Through this conference the Council secured the advice and cooperation of university presidents, medical educators, members of state licensing boards and other interested individuals by means of which standards of medical education and licensure, after careful discussion, were generally adopted. These conferences have grown from the standpoint of both attendance and influence. Since 1911 the two confederations of state licensing boards—now merged into one—and the Association of American Medical Colleges have held their annual meetings in Chicago in conjunction with this annual conference.

III. Educational Standards

In 1904 two educational standards were established by the Council. One of them, suggested for immediate adoption by colleges and licensing boards, advocated an admission requirement of a four-year high school education, a four-year medical course of at least thirty weeks of actual work each year, and the passing of an examination before a licensing board. The other, an "Ideal Standard" intended for adoption at a later time, advocated a preliminary education of one year of college work in addition to a high school education, a four-year medical course, and a fifth year to be spent by the student as an intern in a hospital. In 1909, a "model medical curriculum" was prepared by a special committee of 100 under the direction of the Council. In 1913 a schedule of subjects to be included in the one-year collegiate course was prepared by a special committee of the Council in conjunction with a similar committee of the Association of American Medical Colleges. In February, 1917, after an extensive correspondence with college presidents, university examiners and with other educational experts, a special committee of the Council prepared a suggestive schedule of subjects for inclusion in a two-year premedical college course. This standard has been widely endorsed by colleges and universities and by the Association of American Medical Colleges.

The Council's work in connection with the above standards has had a profound influence not only on medical schools but also on general education. (*a*) In 1910 the Council collected information preparatory to publishing a list of accredited high schools, but on learning that the United States Bureau of Education was willing to publish it, the Council's data were turned over to that Bureau. (*b*) With the increase of the entrance requirements of medical schools to two years of college work, it became important to know which of the thousand or more institutions bearing the name of "college" or "university" were worthy of recognition as such. The Council, therefore, has been cooperating with the various agencies having to do with the standardization of colleges in an effort to secure a reliable list of approved institutions. Since 1917 the Council has published two tentative lists of colleges and junior colleges which have been approved by the North Central and Southern Associations of Colleges and Secondary Schools and the Association of American Universities. Similar organizations in other sections of the country are being urged to adopt similar lists so that a list of all colleges in the country which are worthy of approval can be listed.

IV. Preliminary Education

(*a*) In 1904 only about 25 per cent. of all medical schools were actually requiring a four-year high school education as their minimum requirement for admission. In that year the Council urged that all medical schools adopt that standard as a minimum.

(*b*) In 1904, also, the requirement of one year of college work was urged for future adoption. Educators at first thought it could be generally adopted by Jan. 1, 1908, but on account of conditions in the South, the time was extended to Jan. 1, 1910. It was made a requisite for the Class A rating on Jan. 1, 1914.

(*c*) In 1907 an extensive correspondence with colleges of arts and sciences revealed the fact that a requirement of two years of college work would fit in better with the scheme of collegiate education in the United States. It harmonized with the arrangement for the six-year combined course adopted by many universities for the degrees of B.S. and M.D.; it provided time for other useful subjects and culture courses, such as psychology, modern language, more English, etc., and avoided unnecessary friction in the acceptance of high school credits. It was found also that the two-year standard would place premedical education in this country on a par with that required in the leading foreign countries. In 1916, largely through the efforts of the Council, the two-year requirement had been adopted by forty-six medical schools and by seventeen state licensing boards, which justified the action taken in that year by the House of Delegates instructing the Council to make it a requisite for the Class A rating, beginning Jan. 1, 1918. This standard of preliminary education is now required for admission by every medical college rated in Classes A and B by the Council and has been adopted by thirty-two state licensing boards. This higher requirement by medical colleges is not "on paper only," since all colleges are now sending reports showing the entrance qualifications of their students, which enables the Council to verify the data in each individual case.

The increase in the standards of preliminary education and the adding to the medical course of a year of hospital work bring the completion of the medical course by the student at a too advanced age. This makes it important for a further cooperation by the Council with educational agencies in an effort to shorten the period of elementary and secondary education so as to save two years of the student's time. This will bring education in the United States more into conformity with systems of education in other leading countries.

V. Inspection and Classification of Medical Schools

(*a*) The first tour of the inspection of medical schools was made by the Council during the session of 1906-1907, when 162 medical schools were existing. On the basis of the data collected, the colleges were graded on a civil service basis on a scale of 100 per cent. and were classified in accordance as they obtained a rating: A, above 70 per cent.; B, between 70 and 50 per cent., and C, below 50 per cent. This classification was read at the annual conference in 1907 and in the same year to the House of Delegates of the American Medical Association. It was not published, but each medical college was notified in regard to its classification.

(*b*) The second tour of inspection was made during the session of 1909-1910, which included also the medical schools of Canada. At that time there were 144 medical schools in the United States and 8 in Canada. During the previous four years, 40 medical schools had ceased to exist, including 24 which had merged with others and 16 which became extinct. During the same time, however, 22 new institutions had been organized, making a net reduction of 18 colleges. It was during this second tour of inspection by the Council that Mr. Flexner prepared his report for the Carnegie Foundation. In fact, most of the inspections on this tour were made jointly by Mr. Flexner and the Secretary of the Council. The classi-

fication based on this inspection was included in the Council's report to the House of Delegates and was ordered published.

(*c*) The third inspection of medical schools was made during 1911-1912. The institutions rated in Class A were subdivided between those rated in A + and others in A, mainly because the institutions in the latter division had not voluntarily adopted the higher entrance requirement. In most instances, however, there were other serious defects.

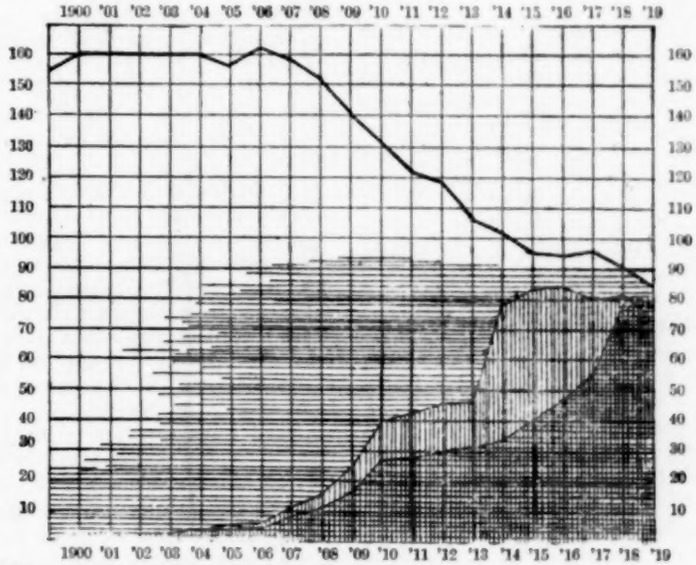
(*d*) The fourth general inspection, which also included the colleges of Canada, was made during the session 1913-1914. At this time practically all colleges had adopted the requirement of one year of collegiate work for admission, so that the A + classification was discontinued and the colleges, as formerly, were grouped in Classes A, B. and C.

(*e*) A fifth classification had been planned for 1914 but was postponed owing to the general adoption of the one year of collegiate work for admission by a large number of institutions. It was decided to allow the medical schools time for readjustment under the higher standard. The reclassification was then planned for 1916, but was further postponed to 1918, owing to the rapidly increasing number of schools which were adopting the two-year standard of collegiate work which went into effect for all Class A medical schools Jan. 1, 1918. Then came the confusion due to the war, which made it advisable to further postpone the general reclassification. The time now seems opportune to make another general inspection and reclassification of all medical schools.

During the visits to medical colleges, in cities where two or more medical colleges were existing, mergers were urged by the inspectors so that in each instance one invariably stronger and better equipped medical school might result. By the end of 1918 the total number of medical schools had been reduced from 162 to 85 and of the latter number all but 6 had adopted the requirement of two or more years of collegiate work for admission. As stated in former reports, this country in 1904 had more medical schools than all the rest of the world. Between 1904 and 1919, therefore, the supply had been reduced to more nearly the normal number for the needs of the United States, but on the other hand, the institutions were greatly improved, not only in their entrance requirements but also in every other respect. The reduction in the numbers of medical schools and the progress in the adoption of higher entrance requirements are shown in Chart 1. It will be noted that great progress had already been made—both in the reduction in the total number of medical colleges and in the greatly increased number which had adopted higher entrance requirements—before 1910 when Mr. Abraham Flexner's report was published by the Carnegie Foundation for the Advancement of Teaching. With all due credit to the Carnegie Foundation for that excellent report and for the beneficial effect it produced in attracting public attention to the needs of medical education, it will be remembered that the Foundation suggested no standards and published no classification of colleges. As clearly shown in the chart, the great changes in medical education had their beginning in, and are mainly due to, the efforts of the organized profession, the American Medical Association, to put its own house in order.

CHART 1.—MEDICAL SCHOOLS AND ENTRANCE REQUIREMENTS

This chart shows (heavy line at the top) the total numbers of medical schools existing in the various years. The chart also shows the numbers of medical schools requiring for admission (horizontal shading, indefinite, estimated) a four-year high school education; (vertical shading) one year of premedical college work and (heavy shading) two years of premedical college work in the years indicated respecively by the vertical lines.



	1900	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19
Totals	160	160	160	160	160	158	102	139	151	140	131	132	118	107	106	96	95	96	90	85
Totals (a)	158	158	158	157	156	153	156	148	135	116	91	80	72	60	24	12	10	10	9	6
Totals (b)	..	..	..	..	..	..	1	2	5	8	13	14	16	16	44	44	38	30	1	..
Totals (c)	2	2	2	3	4	5	5	9	11	16	27	28	30	31	34	40	47	56	80	79

Requiring for admission (*a*) a high school education *or less;* (*b*) one year of college work; (*c*) two or more years of college work.

VI. Improving Medical Education

(*a*) With the higher entrance requirements better qualified students are being enrolled in the medical schools. The campaign for improvement carried on by the Council has resulted also in providing a better medical training than was furnished in earlier years. As a result of the investigations and classifications and the publicity given to the conditions found more endowments for medical education were secured, better medical buildings were erected, new and improved laboratories were added, better equipment was provided and larger staffs of expert all-time laboratory teachers were employed.

(*b*) A careful study and revision of the medical curriculum has resulted in a better apportionment of time to the various subjects of the curriculum so that those subjects are now being taught in a more logical sequence.

(*c*) Medical faculties are better organized, which means that there is a better working organization of the instructors by departments—those teaching anatomy, physiology, chemistry, medicine, surgery, etc.

(*d*) During the fourteen years better and closer relations have been established between medical schools and hospitals; methods of clinical instruction have been greatly improved by the division of classes into small sections for ward work, clinical clerkships, etc.

VII. The Council's Work and the War

Attention was called in the Council's report last year to the result of its work in connection with the world war. The facts are briefly emphasized as follows:

(*a*) Of the 20,678 students who graduated during the last six years, 15,025, or 72.6 per cent., were admitted under the higher entrance requirements, received their training in and graduated from the Class A medical schools, in which the great improvements in recent years had been most pronounced. It is the graduates of these recent years who in the largest proportions entered the government medical services. As a result, the American soldiers and sailors were attended by a larger proportion of medical officers who had had a modern medical training than they would have obtained had it not been for the Council's campaign for an improved medical education.

(*b*) At the headquarters of the American Medical Association, in the Council's files, the Students' Register and the Biographical Index, there is information regarding medical students and graduates which is not available elsewhere. This information was placed at the service of the Surgeon-General,

and as a part of the routine in the commissioning of medical officers, lists of applicants were sent to the Association for verification of their graduation and license. In 1917, through the possession of the Students' Register, unanswerable arguments were advanced favoring the exemption of medical students from the draft and, as a result, the Medical Enlisted Reserve Corps was established.

(*c*) The data available made it possible also to publish the Honor Roll and to conduct an energetic campaign toward securing the enlistment of larger numbers of physicians in the government medical services.

VIII. Graduate Medical Instruction

The world war has emphasized the great need of better facilities for graduate medical instruction in the United States. Such facilities were in great demand by medical officers as they were being released from active duty since that presented an excellent opportunity for them to take up certain courses of graduate study before returning to active practice. Improved facilities for graduate work are also important to meet the demands of our neighbors in the Spanish countries of Central and South America. The development of graduate work is an important subject to consider in connection with the efforts to standardize hospitals.

IX. Medical Cults

An important matter, which affects the relationship between the public and the practice of medicine and which is a problem directly concerned with medical education and medical licensure, is the existence and practice of the various pseudomedical cults, represented by osteopaths, chiropractors, naprapaths, spondylotherapists, neuropaths, psycultopaths, etc. Most of the teaching institutions turning out such practitioners have been inspected by the Secretary of the Council while on his various tours of inspecting medical schools. Files of information in regard to these institutions have been kept, which include catalogs, printed literature, circular letters, inspection reports, etc. The problem has been given sufficient study so that the following reliable statements can be made:

(*a*) The only logical argument to be made against practitioners of these cults is their lack of education. Such training as they have received has been in institutions requiring little or no educational qualifications for admission, and under faculties made up almost entirely of those who have not had a complete medical training. Graduate nurses could, with far greater justice, ask the right to treat human disorders than could the followers of these cults, because nurses are largely taught by physicians and secure their training in hospitals where all types of disease are treated by physicians.

(*b*) Before the recent improvements were made in medical education, many of the medical schools were very little better, from the standpoint of buildings, equipment and teaching facilities, than the better pseudomedical cult institutions. In the former, however, all instructors were those who had received a training in all the branches of medicine. Under the greatly improved conditions brought about in the last fifteen years, there is now so marked a distinction between the education and training of physicians as compared with those of the cult practitioners, that any intelligent layman can note the difference.

(*c*) The medical profession is justified in objecting to the various cults, not because of their peculiar systems of practicing, but because of their serious lack of education and the fact that they are seeking the right to practice as physicians without meeting the same educational standards with which physicians have to comply. If such practitioners wish to appear before the public as physicians and surgeons and to assume all responsibilities of such, then they should not object to being measured by the same standards and submitting to the same tests.

(*d*) The work of the Council in connection with low-grade medical colleges, drugless cult institutions and diploma mills has called attention to the lack of adequate safeguards over the chartering of educational institutions in the various states. In all but a few states any group of individuals for a small fee can secure a charter to open an educational institution and to grant all the degrees in the category, no questions being asked in regard to ability, financially or educationally, to furnish the education usually required for such degrees. Attention to the need of such safeguards was called by the Secretary in his report to the Council in 1916. Reprints of this report were sent to the educational authorities in each state, and a growing interest is being manifested toward the securing of the laws needed to establish such safeguards.

X. Hospital Standardization

(*a*) The "Ideal Standard," established by the Council in 1904, included among its requirements a fifth year to be spent by the student as an intern in a hospital. The Council, therefore, has always had a special interest in the number and character of hospitals. Since 1905 brief reports have been obtained each year from all hospitals as a basis for the lists published in the successive editions of the American Medical Directory. The information included merely the name, character and location of the hospital, the number of beds and the name of the superintendent. Copies of the hospitals' annual reports were asked for and were received from many of the larger hospitals. Much information was obtained from other sources regarding the reputation of the various institutions. Information in the Biographical Index gave other important data regarding the qualifications of the physicians on the hospital staffs. During the various tours of inspection, hospitals connected with medical schools were inspected by the Secretary of the Council, and first-hand information obtained regarding the number of interns and the character of their training.

(*b*) During 1912-1913 a carefully worded questionnaire was sent to 2,424 hospitals having twenty-five or more beds. Reports were received from 2,185, and of this number 852 were regularly using interns, providing places for 3,006 interns.[1] The report showed that the hospitals did not provide sufficient places for the 3,981 students who graduated in that year. Based on the information from this questionnaire and from the inspections made, the Council published in 1914 its first provisional list of hospitals considered in position to furnish acceptable internships. With the revisions made by state advisory committees, only 532 hospitals were recommended in this first list, and internships in them were available for 2,148 graduates each year.

(*c*) A second survey was immediately begun and continued during 1915. New advisory committees appointed by the various state medical associations were secured. Two of the committees—those of New Jersey and Pennsylvania—systematically inspected all the hospitals in those states. To a limited extent inspections were made in other states by the advisory committees and teaching hospitals were inspected by the Secretary. The list of hospitals based on this second survey, which was published in August, 1916, was much more reliable than the first, and contained the names of 687 hospitals which provided internships for 3,340 graduates each year—more than could be supplied. By this time, as a result of the constant agitation by the Council, the intern year had been adopted as a requirement for the degree by eight medical schools and as a prerequisite for the license by eight licensing boards.

(*d*) The third survey of hospitals was begun in April, 1918. The state advisory committees were strengthened, or their membership renewed, through correspondence with state medical associations. The third questionnaire was sent to 1,126 hospitals, and an abundance of up-to-date information has been secured from this and other sources. Annual reports from the majority of the institutions have been obtained, and reports from hospitals are pouring in, giving the names of the physicians who are members of the attending and consulting staffs.

1. See "Preliminary Report on the Standardization of Hospitals," American Medical Association Bulletin, March 15, 1915, p. 316.

WORK OF THE PAST YEAR

THE THIRD SURVEY OF HOSPITALS

In October, 1918, there were in the United States 6,440 hospitals having ten or more beds, or a total capacity of 758,442 beds. The distribution of these by states is shown in Table 1. Of these hospitals, 4,927 have from 10 to 100 beds; 817 have from 100 to 200; 447 have from 200 to 500, and 277 have over 500 beds.

TABLE 1.—HOSPITALS IN UNITED STATES

State	Total No. 10 or More Beds	10 to 100 Beds	101 to 200 Beds	201 to 500 Beds	500 or More Beds	Total Beds	Hospitals Having or Seeking Interns No.	Hospitals Having or Seeking Interns Beds
Alabama	73	64	6	1	2	5,698	14	3,790
Arizona	47	47	.....	.....	.....	1,638	2	191
Arkansas	50	42	3	4	1	5,203	7	2,455
California	373	307	34	18	14	26,817	49	2,096
Colorado	110	89	13	6	2	8,803	16	3,784
Connecticut	75	54	12	7	2	10,991	22	4,133
Delaware	13	10	2	1	.....	791	2	264
Dist. Columbia	39	20	12	5	2	8,923	17	6,014
Florida	47	42	4	.....	1	3,415	4	398
Georgia	93	77	11	3	2	10,236	18	3,462
Idaho	38	33	2	3	.....	2,021	1	30
Illinois	352	270	54	25	14	52,800	86	23,870
Indiana	177	143	21	8	5	15,166	29	7,391
Iowa	201	171	14	12	4	15,769	21	7,427
Kansas	65	51	4	6	4	8,357	15	2,890
Kentucky	114	92	9	10	3	13,059	17	4,857
Louisiana	70	51	11	5	3	8,856	18	4,600
Maine	64	51	8	3	2	5,285	11	3,030
Maryland	122	81	22	11	8	16,551	35	7,275
Massachusetts	373	289	33	34	17	47,192	65	20,676
Michigan	121	79	22	11	9	24,275	34	9,534
Minnesota	224	188	23	6	7	18,578	24	4,698
Mississippi	43	37	4	.....	2	4,175	5	508
Missouri	192	139	37	8	8	23,746	34	4,261
Montana	64	53	9	1	1	4,564	6	1 606
Nebraska	100	82	12	3	3	8,394	18	1,862
Nevada	26	25	.....	1	.....	887	.....	.....
New Hampshire	63	50	9	2	2	5,741	4	1.200
New Jersey	184	116	42	21	5	24,128	37	6,371
New Mexico	46	43	.....	3	.....	2,460	2	67
New York	709	462	102	96	49	141,965	166	61,733
North Carolina	105	95	7	.....	3	7,610	15	2,012
North Dakota	54	50	2	1	1	4,404	2	1.340
Ohio	305	219	44	26	16	43,324	50	14.121
Oklahoma	71	63	2	3	3	5,493	8	1,464
Oregon	85	73	5	5	2	6 967	7	810
Pennsylvania	474	320	83	44	27	73 003	125	26.784
Rhode Island	50	33	9	5	3	7,309	9	3 501
South Carolina	44	38	3	2	1	4.554	7	2,707
South Dakota	55	50	2	2	1	4.033	3	225
Tennessee	106	82	14	7	3	9 565	18	2.003
Texas	197	169	14	8	6	18 903	22	6,422
Utah	27	17	8	2	.....	2,206	5	732
Vermont	36	31	1	3	1	2,796	4	686
Virginia	109	88	8	8	5	2,101	26	2,101
Washington	133	111	13	5	4	11,188	10	1,801
West Virginia	75	65	5	2	3	6,246	10	711
Wisconsin	218	150	45	17	6	20 965	23	2,313
Wyoming	28	26	.....	2	.....	1,252	3	179
Totals	6.440	4.927	800	456	257	758,442	1,126	270,401
Perecntage	100.0	76.5	12.4	7.1	4.0	100.0	17.4	35.6

From the 6.440 hospitals reports showed that only 1.126, or 17.4 per cent. desired or were using interns. A special questionnaire was sent to these 1,126 hospitals and 1,005 responses have been received. Of these replies, 801 included statements in sufficient detail to permit their use in the tabulations shown in Tables 2 and 3 and in Chart 2.

Blanks inquiring data in regard to interns sent to all hospitals brought the information that 5,342, or 82.6 per cent., did not use interns, and only 1,126, or 17.4 per cent., were using or desired to have them. These 1,126 hospitals, however, include the larger institutions, and have 35.6 per cent. of the total bed capacity.

There are 274 more hospitals desiring interns than were listed in 1913, and 439 more than were listed in 1916. These have a total number of 270,401 beds (including eighty-four hospitals for the insane, with 97,421 beds). At the rate of thirty beds per intern for the general hospitals and a total of 174 interns in the state hospitals, places are provided for 5,940 interns or resident physicians, as compared with 3,566 in 1913 and 4,057 in 1916. This shows the remarkable increase in the appreciation of and demand for interns; it shows also the utter impossibility of graduating a sufficient number of medical students to meet the demand, even if we should multiply by four the number of physicians now graduating annually from our medical schools; it shows the necessity of employing house physicians, or of providing special assistants, who will do much of the work heretofore devolving on the intern.

Of the 6,440 hospitals in the United States about a year ago, a special questionnaire was sent to the 1,126 which had reported that they were using or seeking interns, replies have been received from 1,040. Of these replies, 801 gave specific replies to the questions asked. These replies in regard to the character of the hospital, hospital equipment and records have been tabulated and are show in Tables 2 and 3.

CHARACTER OF HOSPITALS

Of the 801 hospitals from which replies were received, 636, or about 80 per cent., are general hospitals, the remainder being devoted to the twelve special lines, as shown in Table 2.

TABLE 2.—CHARACTER OF HOSPITALS SEEKING INTERNS

State	No. of Hospitals Reporting	General	Nervous and Mental	Tuberculosis	Children's	Infant's	Maternity	Eye, Ear, Nose and Throat	Contagious	Skin and Cancer	Orthopedic	Surgical Only	Emergency	Drug Addicts
Alabama	13	10	2	....	....	....	....	....	....	....	....	1	....	....
Arizona	2	2	....	....	....	....	....	....	....	....	....	....	....	....
Arkansas	2	1	1	....	....	....	....	....	....	....	....	....	....	....
California	30	25	3	1	1	....	....	....	....	....	....	....	....	....
Colorado	10	10	....	....	....	....	....	....	....	....	....	....	....	....
Connecticut	14	13	....	1	....	....	....	....	....	....	....	....	....	....
Delaware	2	2	....	....	....	....	....	....	....	....	....	....	....	....
Dist. of Columbia	15	11	1	1	....	....	1	1	....	....	....	....	....	....
Florida	2	2	....	....	....	....	....	....	....	....	....	....	....	....
Georgia	14	12	1	1	....	....	....	....	....	....	....	....	....	....
Idaho	1	1	....	....	....	....	....	....	....	....	....	....	....	....
Illinois	63	52	2	1	1	....	2	2	1	....	1	....	1	....
Indiana	13	10	2	1	....	....	....	....	....	....	....	....	....	....
Iowa	12	9	2	1	....	....	....	....	....	....	....	....	....	....
Kansas	10	7	2	1	....	....	....	....	....	....	....	....	....	....
Kentucky	12	9	....	1	....	....	....	....	....	....	....	2	....	....
Louisiana	14	12	1	....	....	....	1	....	....	....	....	....	....	....
Maine	8	5	2	1	....	....	....	....	....	....	....	....	....	....
Maryland	26	15	1	4	3	....	1	2	....	....	....	....	....	....
Massachusetts	49	37	4	3	1	1	1	1	....	....	....	....	....	1
Michigan	22	16	5	....	1	....	....	....	....	....	....	....	....	....
Minnesota	20	16	....	1	1	....	....	....	....	....	....	2	....	....
Mississippi	4	3	....	1	....	....	....	....	....	....	....	....	....	....
Missouri	23	21	....	....	1	....	....	....	....	1	....	....	....	....
Montana	4	4	....	....	....	....	....	....	....	....	....	....	....	....
Nebraska	9	9	....	....	....	....	....	....	....	....	....	....	....	....
Nevada	0	0	....	....	....	....	....	....	....	....	....	....	....	....
New Hampshire	1	1	....	....	....	....	....	....	....	....	....	....	....	....
New Jersey	31	28	1	....	1	....	....	....	1	....	....	....	....	....
New Mexico	2	2	....	....	....	....	....	....	....	....	....	....	....	....
New York	134	88	12	10	6	....	6	3	3	2	3	....	1	....
North Carolina	9	6	2	1	....	....	....	....	....	....	....	....	....	....
North Dakota	1	1	....	....	....	....	....	....	....	....	....	....	....	....
Ohio	31	26	2	....	2	....	1	....	....	....	....	....	....	....
Oklahoma	5	4	1	....	....	....	....	....	....	....	....	....	....	....
Oregon	2	2	....	....	....	....	....	....	....	....	....	....	....	....
Pennsylvania	99	83	3	1	5	....	4	2	....	....	1	....	....	....
Rhode Island	7	5	....	....	....	....	1	....	1	....	....	....	....	....
South Carolina	5	4	1	....	....	....	....	....	....	....	....	....	....	....
South Dakota	1	1	....	....	....	....	....	....	....	....	....	....	....	....
Tennessee	11	9	....	2	....	....	....	....	....	....	....	....	....	....
Texas	20	19	1	....	....	....	....	....	....	....	....	....	....	....
Utah	4	4	....	....	....	....	....	....	....	....	....	....	....	....
Vermont	2	2	....	....	....	....	....	....	....	....	....	....	....	....
Virginia	17	14	....	1	....	....	....	1	....	....	....	1	....	....
Washington	5	4	1	....	....	....	....	....	....	....	....	....	....	....
West Virginia	5	5	....	....	....	....	....	....	....	....	....	....	....	....
Wisconsin	14	13	....	....	1	....	....	....	....	....	....	....	....	....
Wyoming	1	1	....	....	....	....	....	....	....	....	....	....	....	....
Totals	801	636	53	34	24	1	18	12	6	3	5	6	2	1

EQUIPMENT OF THE HOSPITAL

The questions in regard to equipment applied mainly to the pathologic and clinical laboratory and its equipment to make certain examinations and analyses, the roentgen-ray laboratory and the work it is equipped to perform, and the employment by the hospital of expert anesthetists and dietitians. The number of hospitals replying in the affirmative to each question is indicated in the table, and the data are so arranged that for each state the totals may be seen, as well as the totals for the entire country. The bottom line gives the percentages of hospitals which are equipped in the various lines indicated. It will be seen that nearly all hospitals have laboratories equipped for the simpler chemical examinations of blood, urine and bacteriologic examinations, while to a less extent they are equipped to make gastric analyses, tissue examinations, total nitrogen determinations and serologic examina-

tions. Only 168, or 20.8 per cent., are equipped with electrocardiographic apparatus. It will be noted that 72.8 per cent. of all hospitals have expert anesthetists, and 67.5 per cent. now have expert dietitians. According to the reports, about 76 per cent. of all hospitals have roentgen-ray laboratories with an expert radiologist, and are equipped to do roentgenographic, fluoroscopic and therapeutic work.

HOSPITAL RECORDS

The keeping of accurate histories and records represents one of the most important essentials in the proper conduct of hospitals. There is need for much improvement in this respect in the great majority of hospitals. Even in those which have interns—and these include most of the best conducted hospitals in the country—there is still abundant room for improvement in their histories and records. The tabulation shows that from 88 to 92 per cent. of the hospitals having interns keep records of the patients during their stay in the hospital, including the condition at the time of discharge; 72.8 per cent. keep records of necropsy findings; 69.1 per cent. keep a special record showing the final results, while only 57.8 per cent. keep indexes of their patients by name and by diagnosis. Only 61.9 per cent. of the hospitals having interns obtain the current medical periodicals, and only 46.3 per cent. are supplied with medical text and reference books. All states have hospitals seeking interns excepting Nevada. New York has 134, the largest number, followed by Pennsylvania with 99, Illinois with 61, Massachusetts with 49, and New Jersey and Ohio each with 31. The accompanying chart shows graphically the percentage of all hospitals having the equipment and keeping records along the lines indicated. It furnishes a means by which the conditions in each state may be compared with the showing for all the hospitals in the country which have reported. (See Chart 2, page 1757.)

HOSPITAL STANDARDIZATION A LARGE PROBLEM

Since only 17.4 per cent. of all hospitals seek or make use of interns, it will be seen that the large majority would not be included in an investigation carried on solely from the standpoint of the intern's training. The investigation and standardization of all hospitals, therefore, is a large task—one requiring the expenditure of much time and money. There is

TABLE 3.—EQUIPMENT AND RECORDS OF HOSPITALS USING INTERNS

Showing for each state the number of hospitals having the equipment and which are keeping records, as indicated in the headings

Marginal Number	State	Number of Hospitals Reporting	Laboratory Work									X-Ray				Dietetics	Records								Medical Library	Medical Journals Available	Marginal Number
			Laboratory in Charge of Expert	Equipped for Blood Examinations	Equipped for Urinalyses	Equipped for Gastric Analysis	Equipped for Tissue Examinations	Bacteriologic Examinations	Equipped for Nitrogen Determinations	Electro-cardiographic Examinations	Equipped for Serologic Examinations	Have Expert Anesthetists	X-Ray Lab. with Expert Radiologist	Equipped to Make Skiagraphs	Equipped for Fluoroscopic Exam's	Equipped for X-Ray Treatments	In charge of Trained Dietitian	Findings of Physical Exam. at Admission	Daily Record of Case	Description of Operation	Condition at Time of Discharge	Necropsy Findings	Final Results	Histories Signed by Staff Physician	Separate Index by Name and Diag.			
1	Alabama	13	6	13	13	12	6	12	4	3	5	9	7	9	9	9	4	10	9	12	12	6	9	8	6	5	7	1
2	Arizona	2	2	2	2	2	1	1	1	0	1	2	2	2	2	1	1	1	1	2	2	1	1	2	1	1	2	2
3	Arkansas	2	1	1	1	1	0	1	0	0	1	1	0	1	1	1	1	1	2	1	0	0	0	1	0	0	0	3
4	California	30	23	29	29	28	24	26	21	11	20	21	19	25	25	22	20	26	25	25	25	21	22	21	17	17	23	4
5	Colorado	10	7	9	10	9	5	9	3	0	4	10	9	9	4	6	3	7	10	9	9	4	7	5	4	2	5	5
6	Connecticut	14	10	11	13	13	10	12	7	0	7	10	10	10	10	10	10	12	13	12	13	8	11	8	5	3	6	6
7	Delaware	2	2	2	2	2	2	2	2	0	2	2	2	2	1	1	2	2	1	1	1	1	1	2	1	0	0	7
8	Dist. Columbia	15	14	15	15	14	12	13	12	4	11	12	14	14	14	14	12	13	12	12	14	14	10	9	8	4	5	8
9	Florida	2	0	1	2	1	0	0	0	0	0	1	1	1	1	1	1	2	2	2	2	1	1	2	1	1	1	9
10	Georgia	14	10	13	13	11	6	8	6	3	7	12	11	10	9	8	10	12	12	12	13	8	9	6	3	1	4	10
11	Idaho	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1	1	11
12	Illinois	63	48	60	62	56	51	57	40	15	41	44	46	51	49	49	39	53	60	61	60	44	43	25	41	27	37	12
13	Indiana	13	7	12	13	12	9	10	5	4	6	7	9	9	10	7	6	9	8	8	10	6	8	7	6	8	10	13
14	Iowa	12	8	11	12	11	9	11	7	1	7	9	8	8	8	8	7	8	9	8	11	8	5	5	2	4	8	14
15	Kansas	10	7	10	10	10	7	8	6	2	6	7	7	8	8	7	4	9	9	8	10	8	6	5	5	7	8	15
16	Kentucky	12	7	11	12	9	7	11	5	0	4	5	7	7	8	7	9	8	10	8	9	6	5	7	6	5	8	16
17	Louisiana	14	14	14	14	13	12	13	9	4	9	13	12	12	10	10	9	13	14	14	14	10	8	6	9	7	10	17
18	Maine	8	6	8	8	7	6	7	3	1	3	4	5	6	6	5	5	7	8	7	6	5	6	5	3	6	7	18
19	Maryland	26	18	24	24	22	18	22	11	7	11	17	16	15	15	13	16	25	23	19	22	21	19	15	18	8	13	19
20	Massachusetts	49	33	46	47	41	31	40	23	10	24	33	36	36	33	31	27	46	42	43	47	42	30	32	30	27	33	20
21	Michigan	22	17	21	21	19	15	19	14	4	16	16	17	16	16	17	14	19	19	18	20	17	17	15	10	9	15	21
22	Minnesota	20	16	20	20	20	18	19	11	3	10	18	16	19	17	15	17	15	19	20	18	16	10	13	8	13	15	22
23	Mississippi	4	2	3	3	2	1	2	0	0	0	1	1	1	2	2	1	4	4	3	3	2	3	4	3	2	2	23
24	Missouri	23	19	22	22	19	20	21	14	8	14	15	20	20	20	19	14	20	22	21	21	14	17	11	12	7	13	24
25	Montana	4	3	4	4	4	4	4	3	0	0	1	4	4	3	4	2	3	3	3	3	3	3	3	1	2	3	25
26	Nebraska	9	6	9	9	9	6	9	6	3	5	7	9	9	8	8	7	7	9	9	8	4	6	4	7	2	7	26
27	Nevada	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
28	New Hampshire	1	1	1	1	1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	28
29	New Jersey	31	26	28	28	25	25	25	19	6	18	23	28	28	26	27	19	28	29	31	29	26	23	22	21	10	14	29
30	New Mexico	2	0	1	1	1	0	1	0	0	0	1	0	1	0	0	0	1	1	2	2	0	0	1	0	1	1	30
31	New York	134	113	129	132	120	107	123	85	31	82	95	100	93	96	83	99	125	128	121	128	118	102	102	91	70	85	31
32	North Carolina	9	6	6	9	6	6	4	3	2	2	4	6	6	6	6	7	9	8	6	7	5	5	5	5	5	6	32
33	North Dakota	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	33
34	Ohio	31	25	30	30	28	27	28	23	8	25	23	26	25	23	23	24	29	28	27	28	22	22	17	14	14	17	34
35	Oklahoma	5	4	5	5	4	4	5	4	0	3	4	4	4	4	3	3	4	4	5	5	3	3	2	2	5	5	35
36	Oregon	2	2	2	2	2	2	2	2	0	1	2	2	1	2	1	1	0	1	1	0	0	0	1	0	0	0	36
37	Pennsylvania	99	93	94	97	94	92	96	77	23	77	87	85	82	73	81	81	93	92	92	94	84	85	70	79	50	67	37
38	Rhode Island	7	4	7	7	5	5	5	2	1	4	4	4	3	1	2	2	6	6	6	7	5	3	4	3	4	5	38
39	South Carolina	5	5	5	5	5	3	4	3	0	2	4	3	3	3	3	3	5	4	4	4	3	2	5	1	3	3	39
40	South Dakota	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	1	40
41	Tennessee	11	8	11	11	8	7	10	6	2	7	5	9	9	10	6	6	9	10	9	9	5	6	6	4	5	7	41
42	Texas	20	19	19	19	19	18	19	16	2	15	16	17	17	17	17	17	17	20	20	20	9	13	12	8	9	11	42
43	Utah	4	4	4	4	4	4	4	3	0	2	3	3	3	3	3	4	3	4	4	4	1	2	4	1	3	2	43
44	Vermont	2	1	2	2	2	2	2	0	0	2	0	2	2	2	2	2	2	2	2	2	2	0	1	1	1	1	44
45	Virginia	17	14	17	17	15	13	15	8	2	8	10	9	8	7	8	10	16	16	14	17	12	9	11	11	7	10	45
46	Washington	5	3	3	3	3	3	3	2	1	3	4	4	3	2	3	2	4	3	3	4	2	3	2	3	1	3	46
47	West Virginia	5	5	5	5	5	3	5	3	0	2	4	4	4	4	5	3	4	5	5	5	3	4	3	0	3	3	47
48	Wisconsin	14	13	14	14	14	13	13	4	5	4	13	12	13	12	12	13	12	13	13	13	10	11	8	9	8	10	48
49	Wyoming	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	49
50	Totals	801	636	758	777	712	618	705	475	168	473	584	611	614	585	565	542	704	725	708	736	583	554	501	463	369	495	50
51	Percentages	.....	79.3	94.6	97.0	89.0	77.3	88.0	59.3	20.8	59.0	72.8	76.2	76.5	82.9	70.4	67.5	88.0	90.5	88.3	92.0	72.8	69.1	62.6	57.8	46.3	61.9	51
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	

The first column shows for each state the number of hospitals which sent in complete reports giving information in regard to equipment and records. Columns 2 to 16, inclusive, show for each state the number of hospitals which say they have provided the equipment and experts for the service indicated in the headings. Columns 17 to 24, inclusive, show the number of hospitals reported to be keeping records as indicated in the headings. Columns 25 and 26 refer to medical libraries. Lines 50 and 51 show respectively the total number and the percentages of hospitals which report they have the equipment and are keeping records as indicated by the headings.

ample room not only for the work of the American Medical Association, but also for that being done by the American College of Surgeons, the Catholic Hospital Association, and for what may be planned by the American Hospital Association and other organizations. Efforts are now being made to secure the cooperation of all agencies so as to bring about the greatly needed improvement in the hospitals of the United States.

At the conference on medical education last March, a paper on hospital standardization was presented by Dr. A. R. Warner, president of the American Hospital Association. At the close of the discussion a resolution was adopted urging the creation of a conference which would include representatives of all factors interested in development and standardization of hospitals, and urging that a meeting be called at an early date under the auspices of the American Medical Association. In accordance with this resolution, a special meeting was called by President Bevan, which was held in Chicago on Monday, April 21. Representatives were present from the American Medical Association, American Hospital Association, the American College of Surgeons, the Association of American Medical Colleges, the Catholic Hospital Association, the American Nurses' Association, the American Association of Hospital Social Workers, and the Federation of State Medical Boards of the United States.

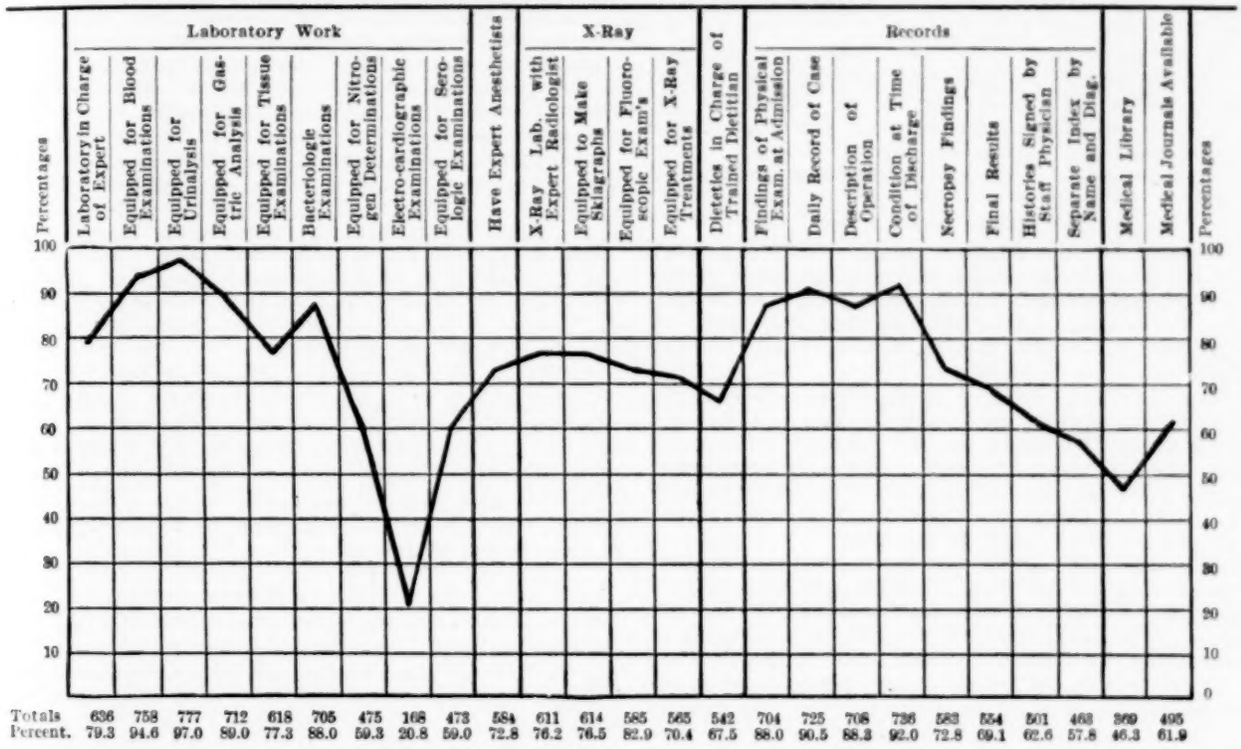
Following a series of reports from the several organizations, it was voted that an American Hospital Conference be organized, to be made up of two representatives of each of the organizations named, and two each also from the American Association of Industrial Physicians and Surgeons and the medical departments of the United States Army, Navy and Public Health Services—altogether twelve organizations and twenty-four delegates. An executive council of three members was created to have in charge the direction of the work connected with the drafting of a constitution and other essentials which will be presented at the first meeting of the conference to be held in connection with the annual meeting of the American Hospital Association in September. A second meeting will be held in connection with the annual conference of the Council on Medical Education at Chicago in March, 1920. The members appointed on the executive council were Dr. A. R. Warner, president of the American Hospital Association, Cleveland, chairman; Dr. John M. Dodson, dean of the Rush Medical College, Chicago, and Dr. Walter L. Bierring, secretary of the Federation of State Medical Boards, Des Moines, Iowa. Through this hospital conference all the various factors interested in the development and standardization of hospitals will have a voice in the formulation of standards for use in the investigation and measurement of such institutions.

ESSENTIALS FOR AN INTERN TRAINING

Based on the abundance of data obtained from the various hospitals from an extensive correspondence with hospital superintendents, deans of medical schools, representatives of state licensing boards and others, the Council has prepared the following tentative outline suggesting the equipment and facilities needed by a hospital and the regulations to be put into effect in order that it may provide a satisfactory training for its interns:

CHART 2.—EQUIPMENT AND RECORDS OF 801 HOSPITALS USING INTERNS

The heavy line shows the percentages of affirmative replies, respectively, to the several questions indicated by the headings. Both the total numbers and percentages of affirmative replies are shown by the figures below the chart (see Table 3).



TENTATIVE SCHEDULE OF ESSENTIALS IN A HOSPITAL FOR THE SATISFACTORY TRAINING OF INTERNS

I. The Staff of the Hospital

1. There must be an organized staff.

2. Staff physicians should be men of unquestionable integrity both professionally and morally.

3. They should be proficient in the special fields in which they work in the hospital.

4. They should give personal attention to the patient under their charge, some member of each department visiting the hospital every day, and every member of the staff should visit the hospital at least once each week.

5. They should assume an obligation to direct and supervise the training of the interns admitted to the staff.

6. (*a*) A clinical conference of the attending staff and the interns should be organized and held at frequent intervals at least monthly, at which new cases and the problems they

present should be discussed. (*b*) There should also be clinical and pathologic conferences, for the attending staff and interns where the antemortem clinical picture is presented and compared with the necropsy findings. (*c*) There are also hospital medical societies at which staff members and interns are encouraged to present cases which have been worked up from the clinical point of view and on which they have read up the available literature.

II. The Equipment of the Hospital

1. A pathologic department equipped with facilities for necropsies, this work to be in charge of an expert, who may be a member of the staff skilled in such work.

2. One or more small clinical laboratories for work by the intern in direct connection with the wards for the routine examination of blood, urine, stools and gastric contents. Within the hospital there should be also a clinical laboratory in charge of an expert who shall be responsible for the more technical, chemical, bacteriologic and serologic work and examinations.

3. A roentgen-ray department in charge of an expert roentgenologist and equipped to do roentgenographic, fluoroscopic and therapeutic work.

4. A working medical library containing a fair supply of modern standard text and reference books, the better medical journals, and suitable charts and models. Bound volumes of the better medical journals for recent years constitute a very satisfactory part of a hospital medical library.

5. Adequate provision for the housing and recreation of interns.

III. Histories and Records

1. Complete histories should be taken, giving the patient's complaint, physical examination at time of admission to hospital, laboratory findings, description of operation, if any, daily record of case, condition and date when discharged from the hospital, end-results, and, in case of death, necropsy findings if necropsy is performed.

2. The histories should show, by signatures or initials, the persons writing them or parts of them. This will show not only the work of the intern, but also the supervision over it by members of the attending staff. In hospitals where senior medical students act as clinical clerks, it should be the duty of the interns to supervise and correct the histories written by the students and the records they keep.

3. The records should be carefully kept and placed in charge of a trained historian. This will not only guarantee better records and better care from the patient's point of view, but also will actually protect the hospital itself, especially in certain medical legal cases.

4. The records should include an alphabetical index of the patients, another arranged by diagnoses, and, for surgical cases, one arranged from the standpoint of the regional part involved. For the alphabetical index cards might be used which would show the end-results, sometimes referred to as the "summary" of the case.

IV. The Work of the Intern

1. The hospital should have a set of printed rules and regulations defining the rights, duties and privileges of the interns which should be furnished to each intern or posted in a conspicuous place.

2. All of the work of the interns should be under the careful supervision of staff physicians. This is essential, not only to correct errors—such as may be expected from his lack of experience—and thereby protect the patient, but also that the intern may receive instruction through his errors and be able to avoid their repetition.

3. The writing of histories in connection with the examination of patients. (See III, 2, above.)

4. Clinical laboratory work. This work might well be divided into two portions, the first to be obtained in the ward laboratory work in connection with the examination and care of patients, the other portion to be obtained in the general laboratory in assisting the expert pathologist in the more technical, chemical, bacteriologic and serologic work. (See II, 2.)

5. Roentgen-ray work: The intern should receive a reasonable amount of instruction in the therapeutics of the roentgen ray and also in the interpretation of roentgen-ray plates and fluoroscopic findings by an expert roentgenologist or a qualified member of the hospital staff.

6. Anesthetics: The intern should obtain experience in the administering of various kinds of anesthetics under expert supervision.

7. Dietetics: The intern should be given instruction by a trained dietitian, or qualified staff member, in the feeding of both infants and adults as required in various diseases or conditions.

8. Maternity work: Before finishing his intern service, the intern should have had experience under supervision not only in the delivery of normal maternity patients but also in the more common abnormal cases.

9. Necropsies: The intern should obtain an experience in making necropsies either under the direction of or by assisting the hospital pathologist.

10. In his progress through his junior and senior service, the intern should assume, under careful supervision, an increasing responsibility in the diagnosis, daily observation, care and treatment of the patients under his service. This experience and responsibility should be in connection with as large a variety of cases as possible and include at least such diseases as are commonly met with by the average practitioner of medicine.

11. The intern should obtain a practical experience in the applying of surgical dressings in connection with the care and treatment of patients. As he progresses in his surgical intern service he should be authorized under careful supervision to perform not only minor surgical operations but also some of the more common major operations. In major operations, the attending surgeon should stand by, or assist the intern. Experience in connection with accident service is, likewise, highly desirable.

12. The number of patients assigned to each intern and the routine work required of him should not demand more than eight (at most, ten) hours daily. He must have ample time to study and read up on his cases both in the interest of his patients and for his own educational progress.

13. The intern service should extend through at least twelve months, and may to great advantage be continued through eighteen months or two years.

V. Miscellaneous

1. Prominent educators are about equally divided in favoring the rotating and nonrotating services for interns. It is evident, however, that each may represent an extreme which should be avoided. If the intern's work is limited to either medical or surgical services, the intern should be encouraged to remain an additional year so as to complete both services. Special hospitals, such as those for diseases of the eye, ear, nose and throat, should preferably select their interns from those who have already completed a service in a general hospital.

2. Where the internship is being taken as a prerequisite to graduation, the evaluation and grading of his hospital work should be done by the medical school from which he is to secure his M.D. degree, either by direct conference with his resident superior, or indirectly, through a series of reports furnished for this purpose by the hospital.

3. The hospital should have an average of not less than twenty-five patients to be eligible to train an intern. To provide for a rotating service in laboratory, medicine and surgery, therefore, a hospital should have at least seventy-five beds and three interns.

4. In hospitals having four or more interns, they should preferably begin their work at different times and pass through junior and senior service. The services are sometimes further subdivided into first and second junior and first and second senior services. Such an arrangement keeps in the hospital a constant supply of experienced interns. This is not only the interest of the patient, but also enables senior interns to instruct juniors.

5. In hospitals having 100 beds or more, in addition to the interns, there should be a full-time resident physician, who has had at least one year's intern experience. It shall be his duty to supervise the work of the interns, particularly at times when no staff physicians are in attendance at the hospital. Even hospitals having less than 100 beds (public ward patients) will furnish their interns with a more valuable training if a resident physician is employed to superintend the professional work in the hospital.

VI. Object

It is believed that an internship obtained under the provisions herein made will prove to be for the best interests not only of the intern and of the hospital, but also of the patients and of the public at large.

Present Enrolment in Medical Schools

Reports from the eighty-five medical colleges which conducted classes during the session of 1918-1919, show that the total enrolment of medical students is approximately 12,090, or 1,540 less than for the session of 1917-1918. The reduction is mainly in the freshman classes of which the total enrolment is approximately 2,810 for the present session, as compared with 4,283 for the previous session. There were twenty-five medical schools also which last fall for the first time enforced the requirement of two years of collegiate work for admission. Such schools were expected to report smaller enrolments in the freshman classes. The decrease, however, was not due altogether to higher entrance requirements. Usually in colleges which had become readjusted under the higher entrance requirements the enrolments have shown an increase or have returned to their previous numbers. This year, however, of the sixty colleges reporting which put into effect the higher requirements in 1916 or previous years, thirty, or 50 per cent., reported a decrease in the number of freshman students. This unusual decrease was due clearly to the volunteering or drafting of premedical students for military service during 1917-1918. With the beginning of another session following the return of soldiers and sailors to civilian life, the enrolments of students in our medical colleges will return to their prewar proportions. Since all colleges have now passed the crisis of the higher entrance requirements, it is quite likely also that the total enrolments in medical schools will show an increase over this and previous years.

Result of the War on Medical Education

In order to bring medical education in the United States on a par with that of other countries, the general requirement of two years of collegiate work for admission was essential. With this increase and with the diminution of the number of medical schools, a decrease in the total enrolment of medical students was to be expected. That this country has about reached the lowest point in such enrolments, however, may be seen from Table 4. Following the readjustment under the higher entrance standards naturally the increase in the enrolments would be noted first in the freshman, then the sophomore, junior and senior classes, respectively, in four successive years, and the table bears this out in that the lowest ebb in the four classes appears for the first year students in 1915, for the second year students in 1916, for the third year students in 1917, and for the fourth year students in 1918. Had normal conditions continued all classes would now be showing an increase and there would have been a resulting increase in the total enrolment for all classes. That this has not been the case is due to the unusual conditions resulting from the world war and the part our country has had in it.

No Scarcity of Physicians

The unusual demand for medical officers naturally created a temporary scarcity of physicians for hospitals and civilian needs, but this was to be expected, and was merely a parallel to the scarcity of experts in other lines of human activities—a scarcity which will undoubtedly disappear following the return of medical officers to a civilian status. The world war has called attention to special needs in every line of human endeavor. No previous war had so involved the entire world or so hazarded the very existence of practically every civilized government. In no previous war was such extensive use made of those who had reached the highest attainments of human skill and ingenuity. The urgency and extent of this demand naturally drew attention to the scarcity of those who were qualified to render service along highly technical or specialized lines. So in medicine there was an unprecedented demand for physicians of exceptional qualifications and skill in the various specialties, such as pathologists, bacteriologists, psychiatrists, brain surgeons, oculists, etc. Here, likewise, the urgency of the demand has forcibly revealed the fact that the supply of physicians having such skill is comparatively limited.

This revelation, however, is not a criticism of medical education of the past, but lays emphasis on the possibilities and aims of medical education in the future. The improvements of the last fifteen years were directly in line with these needs. This country was never so well supplied with physicians who were so thoroughly trained or as skilled in the specialties as at the time it entered the world war.

The war has rendered a great service in revealing the possibilities and benefits that will result from higher attainments in medicine. This shows the necessity of continuing the campaign for improvements not only in undergraduate but also in graduate medical education. If the highest attainments are of such vital importance in great national crises, how much greater will be the service to the public whether there be peace or war.

TABLE 4.—ENROLMENTS OF MEDICAL STUDENTS FOR SEVEN YEARS, SHOWING VARIATION IN NUMBERS BY CLASSES

Year	Freshmen	Sophomores	Juniors	Seniors	Totals
1913	4,564	4,093	3,639	4,444	17,015
1914	4,684	3,981	3,807	3,955	16,507
1915	3,373	3,919	3,675	3,864	14,891
1916	3,582	3,094	3,559	3,727	14,022
1917	4,107	3,117	2,866	3,674	13,764
1918	4,283	3,521	2,893	2,933	13,630
1919*	2,810	3,448	3,158	2,674	12,090

* Estimate.

The line drawn through the table underscores the figures for the freshman, sophomore and junior years which represent the lowest ebb in the enrolment in the respective classes. The number of seniors in 1918 would likewise have been the lowest enrolment for that class had it not been for the exceptional circumstances due to the war. While the figures for 1919 are estimated they are very nearly accurate since reports from all but a few colleges were obtained.

Proportion of Physicians to Population

The supply of physicians in this country is still greater in proportion to the population than that of any other civilized country. According to the sixth edition of the American Medical Directory, completed in 1918, the United States had 147,812 physicians. The total population of the United States, as given in an estimate of the Census Bureau in 1918, was 105,253,300—which is one physician for every 712 people. Various reports regarding the proportion of physicians to population in the countries of Europe just prior to the war show that in those countries the proportion ranged from one to 1,500 to one to 2,500. This country, therefore, still has twice as many physicians to population as the most favored country of Europe

There is, however, an increasing demand for physicians for various lines of work—a demand which can be met only by continuing the high standards of preliminary and medical education now generally adopted, and by further improving our facilities for both undergraduate and graduate medical teaching. This demand for physicians is increasing for the following reasons:

(*a*) The work in public health and preventive medicine is being rapidly expanded especially along the lines of quarantine work, sanitary inspection, medical inspection of schools, etc.

(*b*) There is an increasing demand for physicians who specialize in laboratory diagnostic work. Such positions now carry larger salaries and are attracting an increasing number of medical graduates.

(*c*) There is an increasing demand also for full-time teachers in medical schools for both laboratory and clinical subjects. These places are not only paying better salaries than formerly, but are attractive to many on account of the opportunity for scientific experimentation and research.

(*d*) The rapid development of insurance has brought an increased demand for physicians who devote themselves entirely to such work. With the extension of industrial insurance this demand is bound to be still further increased.

(*e*) The increased study and research being given to tuberculosis, to mental diseases, to cancer and other like problems, is attracting many who would otherwise continue in the practice of medicine.

(*f*) The tremendous interest being aroused for the development of hospitals in smaller cities and rural communities will create a demand for recent graduates as resident physicians in such hospitals. Through the inability to secure interns, hospitals will be inclined to employ resident physicians for a series of years on progressively increased salaries.

(*g*) In the reorganization and improvement of hospitals there is a growing demand for those to serve as superintendents who can combine their medical training with administrative ability.

RURAL COMMUNITIES

The chief complaint in regard to a scarcity of physicians comes naturally from the sparsely settled rural communities where physicians could not make a livelihood because of the difficulties of intercommunication and transportation. With the advent of the telephone, the automobile, improved roads and interurban transportation, however, conditions in rural communities have gradually improved. The physician can now more easily reach the patient in the rural district in emergency cases. Now in a large number of cases the patients go to the physicians in the smaller cities nearby. The number of hospitals in or near these rural districts is rapidly increasing, and this will enable each physician to care

TABLE 5.—CHARACTER OF PHYSICIANS LICENSED IN 1918

Marginal Number	STATES	By Examination					On Reciprocity or Credentials					Totals Registered from Medical Colleges in Class				Grand Totals	Marginal Number
		Medical Colleges in Class				Totals	Medical Colleges in Class				Totals						
		A	B	C	Misc.		A	B	C	Misc.		A	B	C	Misc.		
1	Alabama	16	4	0	0	20	2	1	0	3	6	18	5	0	3	26	1
2	Alaska	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	2
3	Arizona	11	4	1	17	33	0	0	0	0	0	11	4	1	17	33	3
4	Arkansas	7	28	26[1]	7	68	5	4	0	4	13	12	32	26[1]	11	81	4
5	California	37	58	105[2]	3	203	30	11	11	87	139	67	69	116[2]	90	342	5
6	Colorado	16	3	24[3]	1	44	14	4	0	35	53	30	7	24[3]	36	97	6
7	Connecticut	35	3	0	1	39	2	1	1	3	7	37	4	1	4	46	7
8	Delaware	6	4	0	0	10	7	0	2	5	14	13	4	2	5	24	8
9	District of Columbia	33	1	0	3	37	4	0	0	0	4	37	1	0	3	41	9
10	Florida	3	2	0	16	21	0	0	0	0	0	3	2	0	16	21	10
11	Georgia	38	8	1	1	48	8	3	0	13	24	46	11	1	14	72	11
12	Idaho	5	0	2	9	16	6	1	0	8	15	11	1	2	17	31	12
13	Illinois	188	159	9	11	367	11	2	2	10	25	199	161	11	21	392	13
14	Indiana	37	4	0	2	43	8	3	0	4	15	45	7	0	6	58	14
15	Iowa	40	7	1	2	50	8	6	4	11	29	48	13	5	13	79	15
16	Kansas	18	1	0	1	20	11	8	4	13	36	29	9	4	13	56	16
17	Kentucky	20	17	2	1	40	6	1	3	4	14	26	18	5	5	54	17
18	Louisiana	43	2	0	5	50	2	2	0	3	7	45	4	0	8	57	18
19	Maine	21	1	0	5	27	3	0	0	2	5	24	1	0	7	32	19
20	Maryland	50	2	1	1	54	7	1	1	10	19	57	3	2	11	73	20
21	Massachusetts	188	8	10	22	227	0	0	0	0	0	188	8	9	22	227	21
22	Michigan	96	0	1	0	97	22	3	0	23	48	118	3	1	23	145	22
23	Minnesota	67	1	0	0	68	18	4	0	7	29	82	5	0	7	94	23
24	Mississippi	12	0	0	0	12	0	0	0	3	3	12	0	0	3	15	24
25	Missouri	76	9	50	8	143	9	17	2	15	43	85	26	52	23	186	25
26	Montana	7	4	0	9	20	0	0	0	0	0	7	4	0	9	20	26
27	Nebraska	42	2	0	0	44	13	5	0	15	33	55	7	0	15	77	27
28	Nevada	1	3	0	1	5	2	0	0	9	11	3	3	0	10	16	28
29	New Hampshire	3	0	1	0	4	0	0	0	3	3	3	0	1	3	7	29
30	New Jersey	12	0	0	4	16	41	6	1	37	85	53	6	1	41	101	30
31	New Mexico	0	1	0	1	2	10	3	0	18	31	10	4	0	19	33	31
32	New York	402	29	7	8	456	15	5	0	20	40	417	44	7	28	496	32
33	North Carolina	42	2	1	4	49	4	4	0	10	18	46	6	1	14	67	33
34	North Dakota	2	1	0	3	6	1	0	0	4	5	3	1	0	7	11	34
35	Ohio	106	30	1	5	142	14	3	0	16	33	120	33	1	21	175	35
36	Oklahoma	3	16	2	3	24	7	10	3	29	49	10	26	5	32	73	36
37	Oregon	18	4	0	13	35	0	0	0	0	0	18	4	0	13	35	37
38	Pennsylvania	154	7	0	7	168	3	0	0	1	4	157	7	0	8	172	38
39	Rhode Island	10	1	1	1	13	0	0	0	0	0	10	1	1	1	13	39
40	South Carolina	16	0	0	1	17	0	0	0	0	0	16	0	0	1	17	40
41	South Dakota	9	2	1	2	14	0	0	0	0	0	9	2	1	2	14	41
42	Tennessee	30	58	14	1	103	10	0	0	1	11	40	58	14	2	114	42
43	Texas	60	14	3	5	82	11	16	18[4]	22	67	71	30	21[4]	27	149	43
44	Utah	9	1	0	0	10	5	1	1	6	13	14	2	1	6	23	44
45	Vermont	24	0	0	0	24	0	0	0	1	1	24	0	0	1	25	45
46	Virginia	41	3	3	3	50	13	4	0	11	28	54	7	3	14	78	46
47	Washington	26	9	10	14	59	0	0	0	0	0	26	9	10	14	59	47
48	West Virginia	6	9	0	1	16	9	4	0	12	25	15	13	0	13	41	48
49	Wisconsin	22	7	0	5	34	5	2	0	13	20	27	9	0	18	54	49
50	Wyoming	1	5	11	5	22	1	3	1	1	6	2	8	12	6	28	50
	Totals	2109	544	288	213	3154	347	138	54	492	1031	2456	682	342	705	4185	

1. Of the 81 physicians licensed in Arkansas, the Regular Board licensed by examination 7 Class A, 28 Class B and 7 miscellaneous graduates and by reciprocity 5 Class A, 4 Class B and 4 miscellaneous graduates, a total of 15. The Eclectic Board licensed by examination 26 Class C graduates. The Homeopathic Board reported no candidates licensed either by examination or by reciprocity.

2. Of the 105 graduates of Class C colleges licensed in California, 77 were graduates of osteopathic colleges which are not generally recognized as medical colleges by state licensing boards, and 34 of these were required to take only an oral examination. Altogether 133 osteopaths were admitted to the examination for licensure as physicians and surgeons and 77 were so licensed.

3. Of the 24 graduates of Class C colleges licensed in Colorado, 21 were graduates of osteopathic colleges, institutions inferior in most respects to Class C medical schools which are reported as not recognized in Colorado.

4. Texas licensed 3 Class C graduates by examination (although Class C colleges are reported as not recognized) and 18 Class C graduates (including 11 osteopaths) were licensed by reciprocity, a total of 21.

This table shows the classification of the colleges from which most of the physicians graduated who were licensed in 1918. Graduates of colleges which became extinct prior to 1907 who were examined, and all reciprocity licentiates who graduated prior to 1907, are unclassified and included under "miscellaneous" since it was in 1907 that the Council on Medical Education completed its first classification of all medical colleges.

It will be seen that five states accepted Class C graduates through reciprocity where they did not license any by examination. On the whole, however, 287 were licensed by examination where only 54 were registered through reciprocity.

By both examination and reciprocity, the largest numbers of Class C graduates were licensed in California, 116 (including 77 osteopaths); Missouri, 52; Arkansas, 26 (all by the Eclectic Board); Colorado, 24 (including 21 osteopaths); and Texas, 21. The largest numbers of Class B graduates were licensed in Illinois, 161; California, 69; Tennessee, 58; New York, 44; Ohio, 33, and Arkansas, 32.

Of all physicians licensed, 2,456, or 58.7 per cent., were graduates of Class A medical schools; 682, or 16.3 per cent., from Class B schools; 342, or 8.2 per cent., from Class C schools, and 705, or 19.2 per cent., from miscellaneous colleges.

for a larger number of patients and thereby make a better livelihood. The rural districts, therefore, will secure better trained physicians. Not only will there be a larger number of physicians, but there will be more skilled service.

POSTGRADUATE EDUCATION

One of the benefits of the world war is that attenton has been called to the great importance of a better training of physicians, particularly along the line of the narrower specialties. A tremendous interest in postgraduate medical education has developed, therefore, not only in the United States, but also in European and other countries. In all our large cities there is an abundance of clinical teaching material which would be most useful for graduate medical instruction, but which is widely scattered, and not readily accessible to the student. It must first be cataloged and administered by a single organization so that information regarding the work can be obtained by the student by applying at a single place rather than at several widely separated places, which is the condition which prevails at present. A report has just been received indicating that in New York City a movement is on foot to pool all of the hospital facilities for the development of a great scheme for postgraduate medical education, and doubtless similar movements will soon be evident in other large cities. The closer friendship and harmony between the United States and the sister republics of Central and South America—another result of the war—will be further extended if through the development of postgraduate medical education students from South American countries will be induced to and can readily obtain instruction in such subjects as they may desire. In this connection, the exchange of professors between this and European countries and the proposed exchange of clinical clerks and clinical assistants are steps in the right direction. The arrangement should be extended also to the countries of Central and South America.

PROGRESS IN MEDICAL LICENSURE

Since 1904 the Council has had as one of its regular functions the collection and tabulation of statistics which are published in the State Board Number of THE JOURNAL in April of each year. These tables have had a large influence in the improvement of both medical education and medical licensure. One table published with the statistics the last two years is reproduced herewith in Table 5. It shows the classification of the colleges from which each physician graduated who was licensed either by examination or reciprocity during 1918. Graduates of medical school which ceased to exist or which merged with other schools prior to 1907 are included among "miscellaneous" candidates, since no medical schools were classified prior to 1907 following the tour of inspection made by the Council on Medical Education. This table will show the members of the House of Delegates just how many physicians licensed in their respective states during 1918 were graduates of Classes A, B and C medical schools and whether the people of those states are being adequately protected against the output of low-grade colleges. Special attention is called to the footnotes, which give information relating to certain states.

WORK FOR THE COMING YEAR

As intimated in the foregoing report, the lines of work to be emphasized by the Council on Medical Education during the coming year are:

(*a*) Continuation of the work in connection with medical education and licensure by securing information from medical colleges and state boards and publishing it as usual in the Educational and State Board Numbers of THE JOURNAL. This includes also the routine work in connection with the Medical Students' Register and the Biographical Index of Physicians.

(*b*) The continued agitation in regard to improvements in preliminary and medical education and in medical licensure through the annual conference.

(*c*) Continued efforts with agencies having to do with the standardization of colleges of liberal arts and sciences in the effort to secure a complete list of approved colleges of arts and sciences and junior colleges which are in position to give satisfactorily two years of premedical college work.

(*d*) A complete reinspection of all medical colleges, which is essential preparatory to a revision of our classification. This is needed so as to aid a number of colleges which have made numerous improvements; it is neecessary also so as to ascertain whether all medical schools are keeping up to the required standards of excellence.

(*e*) An inspection of all hospitals undertaking to train interns. This can be done in connection with the inspection of medical schools and will in no way conflict with the investigation of hospitals in general being made by the American College of Surgeons and other agencies. It will, in fact, be in harmony with that work.

(*f*) A furtherance of the efforts toward securing the cooperation of all agencies interested in the improvement and standardization of hospitals, toward the main object sought—that the physicians on their staffs may be able to render the best service to the patients in the communities which the hospitals serve.

(*g*) A continued study of the facilities for postgraduate medical education in the United States and publicity regarding the needs of further development along that line. This will include efforts to secure closer relations between the United States and other nations, including those of Central and South America, in both undergraduate and postgraduate medical education.

(*h*) Continued efforts to secure safeguards in each state over the chartering of educational institutions.

IN CONCLUSION

This report shows the lines along which the work of the Council on Medical Education has been developed during the last fifteen years and the direct connection of that work with what still remains to be accomplished. The experiences of the war have emphasized other needs in medical education particularly in the clinical part of the medical course and in the better training for specialists. Improved relations with other countries in medical education; the investigation and standardization of hospitals (with a cordial cooperation of all agencies interested) and the further development of postgraduate medical education—all deserve to have careful consideration and energetic action.

Respectfully submitted,

The Council on Medical Education,

JOHN M. DODSON, Acting Chairman,
ROBERT C. COFFEY, WILLIAM D. HAGGARD,
WILLIAM PEPPER, ISADORE DYER,
N. P. COLWELL, Secretary.

Report of the Council on Scientific Assembly

Dr. E. S. Judd, Minnesota, Chairman, presented the report of the Council on Scientific Assembly, which was referred to the Reference Committee on Sections and Section Work.

The report follows:

To the Members of the House of Delegates of the American Medical Association:

At the Chicago session, last year, the Reference Committee on Sections and Section Work submitted the following in its report to the House of Delegates:

"We find on referring to the program of the Scientific Assembly and to the meeting of the House of Delegates that there are nineteen separate and distinct sections of our association meeting during five days, as follows: House of Delegates, general meetings, scientific exhibits, and sixteen scientific sections. We therefore appreciate the significance of this statement that much time is devoted to scientific work, leaving very little for pleasure and getting acquainted.

"We also find that a resolution has been handed to us requesting consideration of the creation of a new section on industrial physicians and surgeons, making additional scientific work. There would then be twenty distinct parts of the association meeting during the five days. We find also, on referring to the program, that there are 562 speakers listed to address the physicians in attendance. This does not include meetings of the House of Delegates or meetings on Wednesday and Thursday evenings.

"As a result of all this, we find it impossible to make any definite recommendation to become operative at the next session, and as this involves every member of the Association in attendance, we would recommend that this House of Delegates direct the Council on Scientific Assembly to carefully study this problem and form a definite plan of procedure for future meetings. We would also recommend that the committee be directed to forward the suggested plan of procedure to each member of the House of Delegates, for the next session, at least two weeks prior to the first day of the meeting of the House, and that the report of the Council be submitted to the House of Delegates at the next session for definite action."

The House of Delegates adopted the report of this Reference Committee and the Council on Scientific Assembly, in compliance with this direction of the House of Delegates, arranged for, and held a conference of Secretaries of Sections at the headquarters of the Association, in Chicago, February 6. At this conference, the acting Secretaries of all the Sections were in attendance with the exception of the Secretary of the Section on Dermatology. In addition, the Chairman of the Section on Ophthalmology, the President and the President-Elect of the Association, the Speaker of the House of Delegates and the Secretary of the Board of Trustees, were present, as were all the members of the Council on Scientific Assembly, with the exception of Dr. Roger S. Morris, who was absent from the country on military duty.

There was an earnest discussion of the subjects presented in the foregoing recommendations of the House of Delegates and other matters pertaining to the Scientific Assembly, as well as the plans for the VICTORY MEETING, the annual session of 1919.

By mutual consent of the Secretaries of all the Sections, it was agreed to make trial at this annual session of dividing the sections into two groups; one group to meet in the morning hours and the other group to meet in the afternoon hours on Wednesday and Friday. It was further mutually agreed that all the Sections shall meet on Thursday morning, in order to place that afternoon at the disposal of the Board of Trustees for large general meetings, to be addressed by foreign physicians in attendance at the annual session as delegates, representing the medical profession of the countries allied to the United States in the World War. In this way, arrangements will be carried out so that each of the Sections will hold but one meeting on each of the days assigned for Section meetings, instead of two meetings as at previous annual sessions. For the annual session of 1919, in accordance with the foregoing plan the following Sections will meet during the morning hours of Wednesday, Thursday and Friday: Practice of Medicine; Obstetrics, Gynecology and Abdominal Surgery; Laryngology, Otology and Rhinology; Stomatology; Preventive Medicine and Public Health; Genito-Urinary Diseases; Orthopedic Surgery and Gastro-Enterology and Proctology. The following Sections will meet during the afternoon hours on Wednesday and on Friday, and along with the Sections already named during the morning of Thursday: Surgery, General and Abdominal; Ophthalmology; Diseases of Children; Pharmacology and Therapeutics; Pathology and Physiology; Nervous and Mental Diseases; Dermatology; Miscellaneous Topics.

At this conference of the Secretaries of Sections, the following rules were formulated, to be submitted to the several Sections for adoption as standing rules of the Sections. These standing rules, it will be noted, define with more exactness provisions which already are incorporated in the By-Laws of the Association.

1. No paper shall occupy more than fifteen minutes in its presentation before the section (Section II, Chapter XI of the By-Laws, "The time allowed for the presentation of a paper before a section shall be limited to fifteen minutes," shall be mandatory) with the exception that the time may be extended by the unanimous consent of those present when the speaker is an invited guest of the section. The section shall not exercise its privilege to extend the time for the discussion of a paper beyond the time allowed (five minutes) but this time limit shall be mandatory.

2. With the exception that the reader of the paper may be permitted to close the discussion, a Fellow shall be permitted to take part in the discussion of a paper once, and only once.

3. Any Fellow who desires to discuss a paper shall be required to give, in writing, his name together with his home and local annual session address to the Secretary of the section before he is given the floor. This rule shall be strictly enforced when for the first time at an annual session a Fellow takes part in the discussions of the section.

4. Section 2, Chapter XII, "Each author shall hand his paper to the Secretary of the section immediately after it is read" shall be amplified and emphasized, and shall be construed to require that each author must present to the Secretary of the section a finished copy of his paper before he is permitted to present his contribution to the section.

5. Each author shall be required to send a full synopsis of his paper to each of those listed in the official program to open the discussion of the paper, and these synopses shall be mailed to those assigned to open the discussion at least ten days before the first day assigned to the meetings of sections.

6. The Secretary of the section shall inform himself as to whether or not each member of the executive committee of his section expects to be in attendance at each annual session of the Association and shall transmit to the chairman of the section the information he receives, reporting both who of the executive committee of the section plans to be in attendance, and also who will probably not be present.

7. The Secretary of the section shall mail a copy of the rules of the section to each Fellow who is assigned to a place on the program of the section.

8. The rules of the section shall be binding on the Secretary of the section who shall have no option but must enforce them.

The Council on Scientific Assembly assigned two meetings of the Section on Miscellaneous Topics for the 1919 annual session for the presentation of a program on Industrial Medicine and Surgery, and appointed the following officers for these meetings: Chairman, Dr. Harry E. Mock, Chicago; Vice Chairman, Dr. David L. Edsall, Boston; Secretary, Dr. Otto P. Grier, Cincinnati.

The Council recommends to the House of Delegates that the maximum number of papers, including addresses, on the program of any one section shall hereafter not exceed twenty-five. In order to make this recommendation effective, the Council suggests that, if the House concurs in this recommendation, Section 12, Chapter XI, of the By-Laws shall be amended so that it shall read:

The number of papers including addresses, on the program of any section shall not exceed twenty-five.

The Council further recommends to the House of Delegates that the standing rules for the guidance of the Council on Scientific Assembly which were adopted at New York, June 17, 1917, shall be amended by deleting the second of these rules and modifying the present third and fourth rules so that the standing rules for the guidance of the Council on Scientific Assembly shall read:

1. The term "unit" shall signify a single meeting of a section at an annual session.

2. The sections of the Scientific Assembly shall be limited at each annual session to the maximum number of three units.

3. The sections shall not hold more than one meeting on each of the days of the annual session during which section meetings are held.

4. The Council on Scientific Assembly shall apportion the morning and afternoon units at each annual session to the several sections.

In compliance with the request of the Section on Genito-Urinary Diseases, the Council recommends that the name of this section shall be changed to the Section on Urology, and that in order to make effective this recommendation, Section 1, Chapter XI, Item 13, of the By-Laws shall be amended by deleting the words: "13. Genito-Urinary Diseases" and substituting therefor the words "13. Urology."

Respectfully submitted,

E. S. JUDD, Chairman,
GEORGE H. SIMMONS, ROGER S. MORRIS,
J. SHELTON HORSLEY, ALEXANDER R. CRAIG.

Report of the War Committee of the American Medical Association

Dr. Hubert Work, Colorado, Chairman, presented the report of the War Committee, which was referred to the Reference Committee on Reports of Officers.

The report follows:

To the Members of the House of Delegates of the American Medical Association:

Since the report submitted to this House of Delegates last June, according to the records of the Association, the applications for commissions in the Medical Corps of the Army

were: June, 2,416; July, 2,841; August, 3,814; September, 4,171; October, 3,113, and during November, the month of the Armistice, 632; total, 16,987 commissions from June 1, 1918, to the cessation of hostilities.

The American Medical Association has been the center of information concerning medical military matters for physicians. Replies to individual inquiries have involved the activities of several of the departments at the Association headquarters, and letters to individual physicians during the period of hostilities frequently numbered over 100 each week. In addition, since last June, more than 5,000 pamphlets covering information pertaining to entrance into the Medical Corps were distributed in response to individual requests. The expense involved, including printing, postage and other items, has been borne by the Association.

The American Medical Association supplied state and county organizations with detailed information concerning the physicians in their own communities who were available for civil and industrial practice, and has cooperated with these branch organizations in enlisting the services of additional physicians where the needs of a locality could not be met by physicians still remaining in civilian practice in these communities.

On the suggestion of the officers of the Association, the Provost Marshal-General requested the Surgeon-General of the Army to assign a medical officer to the office of the Provost Marshal-General, in order that that medical officer might act as an advisor on medical questions arising under the Selective Service regulations. Col. Frank Billings was first assigned to this position. From this beginning, the medical division of the Provost Marshal-General's office was created on August 1 last, which, when the armistice was signed, had a personnel of four medical officers and five enlisted men and clerks. The functions of this medical division related to the selection and induction of registrants into military service, and included the recording and computing of the statistical data incident to that work. This medical division in the Provost Marshal-General's office brought about intimate working relations between these two offices. Through the coordination which it made possible, the examinations of registrants by the Selective Service Boards and those made at the cantonments and camps by the army medical officers were standardized. Your Committee congratulates the Association, through this House of Delegates, on the nationwide service which the Association has rendered, especially in that its organization was made available for assembling and proving medical data to the executive heads of several Federal departments which required the cooperation and assistance of the medical profession both in caring for the force under arms and in the execution of the Selective Service regulations. The work of the Association elicited the following comment in the Second Report of the Provost Marshal-General to the Secretary of War, on the Operation of the Selective Service System to Dec. 20, 1918. After announcing that the medical profession is credited with supplying 4,246 of the 13,564 members of the local boards (31.3 per cent.), and in addition, that there were established 155 district boards on each of which there was at least one physician, and 1,319 advisory boards with a personnel of 9,577, the report states:

"At this point a tribute is due to the American Medical Association. From this Association came the suggestion for medical advisory boards and cordial assistance in their selection. THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, with a circulation of 66,000 copies, has been a valuable medium of information between this office and the medical men who discharged the duties of the profession to the government through the draft. The medical profession has responded and served in a devoted manner that has received universally favorable comment. It is gratifying to note the part which the Association has taken in thus assisting to raise our great Army, as well as its valuable contribution to the war generally."

The Surgeon-Generals of the Army, of the Navy and of the Public Health Service, have given similar recognition of the cooperation which the Association has rendered their corps.

In submitting this, its final report, the members of the Committee desire to express to this House of Delegates their appreciation of the opportunity to serve the profession and the Nation which appointment on the Committee afforded.

Respectfully submitted,

HUBERT WORK, Chairman,
A. R. MITCHELL,
FRANK BILLINGS,
WENDELL C. PHILLIPS,
Ex-officio { ARTHUR DEAN BEVAN, President,
A. R. CRAIG, Secretary,
GEORGE H. SIMMONS,
Editor of THE JOURNAL.

ADDENDUM

Before proceeding with the business of the House, the Speaker announced the following Reference Committees:

SECTIONS AND SECTION WORK

George D. Head, Chairman.....Practice of Medicine
S. R. Roberts.....Georgia
J. B. Blake.....Massachusetts
L. S. McMurtry.....Kentucky
John Ridlon.....Section on Orthopedics

RULES AND ORDER OF BUSINESS

J. Rilus Eastman, Chairman.....Indiana
G. Wythe Cook.....District of Columbia
S. W. Welch.....Alabama
Joseph R. Morrell.....Utah
F. LeMoyne Hupp.....West Virginia

MEDICAL EDUCATION

J. H. J. Upham, Chairman.....Ohio
J. R. Phelps.....U. S. Navy
George D. Stewart.....New York
Edward B. Heckel.....Pennsylvania
Franklin E. Murphy.....Missouri

LEGISLATION AND POLITICAL ACTION

Thomas S. Cullen, Chairman.....Maryland
Clarence Pierson.....Louisiana
Charles E. Humiston.....Illinois
Frank Y. Gilbert.....Maine
Charles S. Huffman.....Kansas

HYGIENE AND PUBLIC HEALTH

J. W. Schereschewsky, Chairman.....U. S. P. H. S.
H. A. Royster.....North Carolina
C. D. Selby.....Ohio
L. M. Halsey.....New Jersey
V. G. Vecki.....California

AMENDMENTS TO CONSTITUTION AND BY-LAWS

Floyd M. Crandall, Chairman.....New York
F. A. Winter.....U. S. Army
P. W. Tomlinson.....Delaware
J. M. Aiken.....Nebraska
I. C. Chase.....Texas

REPORTS OF OFFICERS

Hugh T. Patrick, Chairman...Section on Nervous and Mental Diseases
Rock Sleyster.....Wisconsin
J. N. Hall.....Colorado
Edgar A. Hines.....South Carolina
J. E. Lane.....Connecticut

CREDENTIALS

C. P. Meriwether, Chairman.....Arkansas
D. E. Welsh.....Michigan
Charles R. Hume.....Oklahoma
F. T. Kidder.....Vermont
John C. Rockafellow.....Iowa

MISCELLANEOUS BUSINESS

W. B. Russ, Chairman.....Texas
Southgate Leigh.....Virginia
F. T. Rogers.....Rhode Island
Thomas H. Halsted.....New York
H. B. Gibby.....Pennsylvania

After announcing the Reference Committees, the Speaker called on the Vice Speaker, Dr. Dwight H. Murray, New York, to take the Chair.

Previous to delivering his address, the Speaker stated that the Ad Interim Committee by postal vote approved the appointments by the Board of Trustees of a special Committee on Revision of the Pharmacopeia.

Address of the Speaker, Dr. Hubert Work

The Speaker then delivered the following address, which was referred to the Reference Committee on Reports of Officers:

To the House of Delegates of the American Medical Association:

After fifteen consecutive years of service in this House, as a Delegate, on the Judicial Council, and as Speaker, may I say a word intended to be constructive in character.

This Association has long been an ornament to the medical world. The probity of its officers, its scientific attitude and unequaled JOURNAL have compelled its recognition as the finality of ethical, scientific medicine in the United States.

MILITARY SERVICE OF THE ASSOCIATION

The world war called to it, tried it and proved the quality of its organization and personnel. Thirty-five thousand physicians volunteered for military service and went away. Twenty thousand volunteered for draft service at home. Sixty thousand more volunteered for limited service, to do what they could. More than 100,000 physicians from our total of 148,000 served, or pledged themselves for service.

The question of the profession's loyalty to its country has been answered. Its loyalty to organized medicine is on trial.

The uniformed 35,000 returning find their personal relations changed. Communities adapted themselves to their absence; they became unnecessary. The routine practice of medicine had contracted itself, for much of it relates to betterments in health, rather than to immediate conservation of life. While returned physician-soldiers are received with pride and often with affection, business is not emotional but is governed by the laws of business. Many physicians not only gave their time to the government, but their niche in the community also, and must hew a new one there or elsewhere. Some put away with their uniforms the spurs of ambition and the anticipation of future successes. Our sons, who went away as boys, return as men. The world has changed them and changed to them. These new men will have new thoughts and do new things, they have been reconstructed and will in turn readjust this Association and also their relations to the practice of medicine.

A NEW ERA

Thoughtful men agree that we are entering on a new era in medicine which will compel the closest interrelation between physicians, hospitals, nursing and the public. It is not probable that practice will again be followed as heretofore. The time is passing when the personality and skill of a single physician will satisfy his patrons, or command a fee measured only by the patient's ability to pay, for skill is no longer limited to a few. Teamwork of physicians and the evolution of the hospital, which provides all domestic and medical service, has given the public an economic idea which will hereafter direct the practice of medicine. Cities and large towns already have their hospitals; rural communities soon will have, state aided no doubt, for it is a short step from state care of the insane to the state care of all sick. The greatest future concern of this Association may be its direction and oversight of hospitals; the practicable achievments of its five councils, if you please, brought to bear on common centers for the cure of the sick.

BUREAU OF HOSPITALS

Should this House recommend to the Trustees that a Council on Hospitals be created?

Such a bureau should comprehend hospital architecture, construction, plumbing, organization, contagious diseases, general medicine, surgery, interns, practical nursing, trained nursing—in short, a bureau of information for the standardization of all detail relating to the hospital care of the sick. Standards fixed by a permanent council of experts, directed by this Association, would compel hospital directors to comply with their requirements in order to secure a coveted rating. It would avoid the expensive canvass and tedious propaganda now being conducted jointly by the American Medical Association and the American College of Surgeons. The weight of the Association's influence behind this movement, directed in the field by selected full-time men, would give the public assurance and a point of appeal on hospital questions.

Duties of this bureau would be: consultations with municipalities proposing to build; with industrial companies, planning sick care for their employees, and with state governments. Proprietary and sectarian hospitals contemplating enlargements or troubled by incompetent management would welcome the efficiency expert of such a bureau, while philanthropists could know that their bequests were worthily bestowed and would be honestly conserved, as by a trust.

GRADED SCHOOLS

Our public schools are teaching trades. Premedical training should assume direction there also. The necessary mental discipline may be obtained from studies essential to medicine, and time should not be occupied on branches studied only for a degree. Courses in the grades, high schools and colleges are so loosely knit that the first year in high school and college is largely wasted in fitting for the last three years. Could one year be safely clipped from the grades, one from the high school and one from the college course of those who would study medicine?

We have an inactive joint subcommittee with the National Educational Association which might well functionate on the pressing question of premedical education. A majority of common school boards in the United States have one or more physician members. This Association can bring about through them new educational policies it may choose to inaugurate.

UNDERGRADUATE MEDICAL EDUCATION

It is evident that the relentless pressure of this Association for higher college and professional standards, with their time and financial exactions on the one side and the decrease in disease through preventive medicine on the other, are grinding between them students and physicians of average opportunities.

Medical requirements for practice demand at least seven years of schooling beyond the high school. In some universities, two degrees and nine years' time are demanded for graduation. That included in the average medical college curriculum costs so much time and money that only the rich can attain it. The crossroads communities will soon have no qualified physician, and from necessity will revert to the opportunist and the midwife. Should undergraduate schools undertake to finish specialists in medicine, presumably the function of postgraduate schools?

The primary function of a physician, to cure the sick, is submerged by the scientific ambition to diagnose rare diseases or a few ailments, with an inevitable loss of perspective necessary to the accomplished diagnostician. Failure to gain practical knowledge of the simple things in medicine tremendously depreciates recent graduates. American medical colleges are graduating medical scientists, and our hospitals, nursing specialists, both technicians and both out of reach of the family of average means.

NURSES

We should recognize that conditions confronting communities affecting physicians, apply equally to nurses. Certain training schools require for graduation a high school diploma for admission followed by three years' training. The average nurse is graduated with a feeling that her period of service has ended and her reign is begun. This is an intolerable economic attitude. The average householder cannot afford to employ servants for servants indefinitely, and he is already looking to the medical profession for relief in home care for his sick.

The public needs practical nurses, trained in cleanliness and taught to do what is necessary to be done for the comfort of the household, including its sick. There ought to be provided six months or more schooling in every small city, for teaching girls who have good average ability but not necessarily overschooling to do the common every day things

in nursing. It was done in a war emergency recently and is a practical suggestion.

NEED FOR THE GENERAL PRACTITIONER

The general practitioner of medicine must come back, and a temporary substitute for the stricken mother must be trained and qualified for duties associated with the sick in the home. If we fail to initiate these changes intelligently, economic necessities will do it blindly, and we will submit to it but not direct it.

The American Medical Association is directed by the highest type of scholarly men, but it must not be operated exclusively for them and should address itself to the necessities of a majority of our medical men, who need help most and who are doing the most of medical work. It would appear that this Association could do more at its annual meetings than discuss scientific papers.

The medical profession of the United States numbers about 148,000. Of these, 82,000 are members of the American Medical Association, 70,000 are subscribers to THE JOURNAL, 45,000 are Fellows of the Association, and approximately 4,000 attend its annual meetings. For some years these have been relatively stationary figures and call for inquiry into the causes.

The question is frequently asked: "Is the organization fostered so that its JOURNAL may thrive, or is THE JOURNAL the agent of the Association?" The presentation of able papers to be printed and made accessible to 70,000 physicians who do not attend annual meetings has great value, but is that enough for 80,000 organized physicians, to accomplish? It is apparent that we must answer to the public many questions, all of which are embraced in the general case, Shall the American Medical Association assure to the public, qualified physicians, nurses and standardized hospitals, at prices it can afford to pay?"

PHYSICAL EDUCATION OF CHILDREN

The physical examination of registrants for the late war emphasized the importance of medical supervision of grade schools for physical correction. Almost 30 per cent. of registrants appearing before local boards were rejected for military service. Nearly 9 per cent. of those inducted were rejected at camp. Thirty-eight per cent. of young American men were disqualified because of vicious habits of development, correctable defects and preventable diseases, easily detected by a schoolteacher and readily righted in their incipiency by physicians. The physical development of schoolchildren is more necessary than textbook education—a duty which should be suggested and accomplished by physicians as an organized movement, again made possible to this Association through its medical members of school boards, and its joint committee with the National Educational Association.

AMERICAN COLLEGE OF SURGEONS

Unstinted commendation is due the American College of Surgeons for its intelligent energy and liberal expenditures of money directed toward the standardization of hospitals. It has fixed for itself also the important duties of compelling the qualifications of its surgeon members and of creating a sentiment to prevent the secret division of fees. The fixing of qualifications for surgeons may be safely left with this college, as its requirements are exacting. The standardization of hospitals is urgent. The secret splitting of fees requires two parties to accomplish it. Let those who refer cases wash their own hands also.

AMERICAN DENTISTS

Our kinsmen of the profession of dentistry took their place in the world crisis, without hesitation and to great purpose. They demonstrated their quality as professional men, their loyalty as Americans, and their right to be recognized as a specialty in medicine.

The three essentials for a soldier are serviceable teeth, a good stomach, and strong, flexible feet. Organized dentistry saw to it that the first necessisty was promptly, cheerfully and gratuitously provided for registrants.

STATE AND SECTION SECRETARIES

State and section secretaries each should hold annual midwinter meetings for the discussion of problems pertaining, respectively, to the development of the state and county branches and the scientific assembly. The reason for this is obvious—the intimate connecting up of the American Medical Association with its component and constituent societies in an attempt to dispel the lethargy that is settling on medical organizations.

I hope that the House will consider at this session the future relations of the American Medical Association to the public in its entirety, and particularly to outlying communities. If you believe it to be desirabe, set apart a few hours, resolve the House into a committee of the whole, freed from program and time exactions, for the discussion of ideas you doubtess entertain for the protection and advancement of the profession through this Association.

The American Medical Association must either become a reminiscence or adapt itself to the requirements of modern medicine as the future may apply it to arising conditions. The latter should be the vision of the House. I particularly wish to see this House of Delegates assume its rightful function in initiating and defining the policies of the American Medical Association.

I believe there are duties before the Association, professional rather than scientific, which will call for exceptional devotion, patient service and skilful guidance. But my official connection with you, which must soon terminate, has assured me that no body of men has keener insight, clearer vision, or higher motives. And as I thank you for your countless courtesies, may I also urge you to weigh well your responsibilities.

Address of the President, Dr. Arthur Dean Bevan

The Speaker then resumed the Chair and introduced Dr. Arthur Dean Bevan, Illinois, President of the Association, who delivered the following address, which was referred to the Reference Committee on Reports of Officers:

Mr. Speaker and Members of the House of Delegates:

I desire to present quite informally to you some of my impressions of the work of the Association, with some suggestions that naturally grow out of these impressions.

In the first place, during my connection with the Association, especially during the last year as President of it, I have been very greatly impressed by the soundness of our scheme of organization. Our organization is thoroughly representative and democratic. It represents better than any other plan that could be devised the medical profession of the country. I feel, however, that few of us realize the enormous size of the task and the great responsibilities of the American Medical Association. To meet these responsibilities and to realize these possibilities for good, both for the profession and for the people of this country, we must have an imagination and a courage, and we must plan our organization to meet the much larger and broader requirements than any of us have as yet dreamed of.

The activities of the Association will increase in number and magnitude from year to year, and we must plan to anticipate this fact and build machinery to meet these very great demands as they are coming.

We already have, as Dr. Work has told you, more than 80,000 members; we shall soon have 100,000 members. We have created in the American Medical Association an instrument, the purpose of which is to give to the people of this country the benefits of modern scientific medicine. We have created an instrument with which we can elevate the standards of medical education and medical practice and conserve in the best sense the interests of the profession. We have created an instrument through which we can stimulate scientific medical research and improve the character of American medical literature.

The value of our scheme of organization was tested by the war. The organized profession of the country promptly met the demands of the government, and within a short time about 50,000 medical men and women responded to the call

and applied for commissions, and almost 40,000 of these were accepted and served in the Medical Departments of the Army and Navy.

IMPROVEMENT OF ORGANIZATION

I want to make rather informally some suggestions. The first suggestion I want to make is this: the importance of obtaining a closer contact between the activities of the national association and the activities of the forty-eight state associations. The great activities of both the national and state associations I shall briefly review and make some suggestions to you about them.

In the first place, as you remember, the American Medical Association was created for the purpose of elevating the standards of medical education, and I shall briefly refer to this activity first.

A good deal has been accomplished, and yet I think the possibilities in the future are very much greater than anything we have accomplished so far. I myself have been very much interested in this work, as many of you know, and I think that now and in the immediate future there are very great demands to be made on this particular function of the Association.

HOSPITAL STANDARDIZATION

The whole question of hospital standardization is an exceedingly important one, and one in which the American Medical Association can play a most important part. It is, however, a problem which cannot be met by any single organization. We looked into this question with a great deal of care during the last few years, and we finally came to the conclusion, which I think is sound, that it was necessary to call into this problem for the purpose of finding a solution various agencies that are vitally interested. So at the last meeting of the Conference on Medical Education, held in Chicago, at the suggestion of Dr. Warner, President of the American Hospital Association, we invited the different organizations that are vitally interested in this problem to a conference, which was held a few months ago in Chicago. There we laid the groundwork for a plan and machinery which I think will be effected. We created an annual hospital conference, and this annual hospital conference represents twelve different organizations, the American Medical Association, the American Hospital Association, the American Nursing Association, the Federation of State Boards, the Army and Navy, the Public Health Service, the American College of Surgeons, the Association of American Medical Colleges, etc. This conference is to meet twice a year, once at the meeting of the American Hospital Association, and once at the annual meeting of the Council on Medical Education, and it is hoped, and we believe, that it will be an agent by which we can attack this great problem, and out of its solution there will be an understanding that all of these other organizations are to continue their work in this field; that the hospital conference is to be an annual clearing house by which we can discuss and agree on the important general principles that must control the situation. There can be very little doubt that this will be the agent through which this important problem will be attacked.

POSTGRADUATE INSTRUCTION

Hand in hand goes with that the question of postgraduate instruction. I do not know whether you realize the fact or not, but postgraduate instruction in this country today is about on a par with what undergraduate instruction was fifteen years ago, when the American Medical Association undertook the work of elevating the standards of medical education in our medical schools. In other words, it really does not exist. It has got to be created. This is one of the big problems that confronts us and which must be undertaken, I think probably best, through the Council on Medical Education as the agent of the American Medical Association. Hand in hand with that goes this big problem—the matter of creating in this country a plan by which we can develop really trained specialists in the different medical and surgical specialties—a plan which should receive the approval of the profession and the public. Some such plan is the requirement of three years of training in a specialty after a man graduates and has his internship before he can pose as a specialist in any of these subjects. These are inseparable.

COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

Of course, the public health problem is represented by the Council on Health and Public Instruction. It is unnecessary for me to say how great that problem is, but as yet we have not met it either as a country or as an association, and it is unnecessary for any of us to dwell on the importance of meeting that problem of public health, carrying the possibilities of preventive medicine to every community in this country. It is one of the great problems for this Association to undertake, and we must find the organization and machinery to meet it.

The work of the Judicial Council is great in meeting the problem of health insurance and many other problems that go with it.

COUNCIL ON PHARMACY AND CHEMISTRY

There are also other great problems in the hands of the Council on Pharmacy and Chemistry. You know it has been doing admirable work in this field, and yet I want to make this one suggestion: The Council has been confronted by the fact that the drug houses of this country have not as yet been educated to the highest possible standards. There has been more or less conflict between the drug houses and the Council on Pharmacy and Chemistry. I would suggest that in the future reputable drug houses of this country be called in conference with the Council on Pharmacy and Chemistry, in order that some plan may be devised by which there can be cooperation between this Association and the great drug houses of this country. Such a cooperation does not as yet exist. We can all see the difficulties in obtaining such a cooperation, and yet I believe that these difficulties can be overcome, and that it would be much more desirable to work in harmony and in cooperation with these drug houses.

As to the stimulation of medical research, a great deal can be done by the Association in that line.

PUBLICATIONS OF THE ASSOCIATION

I have nothing to say except in praise of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION as a whole. I do not believe, however, that we are fulfilling in the best way that we can fulfill our duties toward medical literature. I want to make this suggestion: We are an association of practitioners; we represent very largely men in active medical practice. I believe that, in addition to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, this Association should publish special journals, practically covering all of the special fields; that in the publication of these journals there should be kept in mind as the first object clinical research. In this connection I want to criticize some of the special journals that we are now publishing. I think, for instance, that the *Archives of Internal Medicine* does not fulfill its indications. It should rather be published as a journal in laboratory medicine. What we want for the *Archives of Internal Medicine* is a journal covering the ground of real clinical research, the work that the medical man knows at the bedside. If we publish a journal, such as the *Archives of Internal Medicine*, it should be rather a journal of experimental medicine. I make that statement because I want to offer this suggestion: One of the most desirable things we can do would be to publish a journal of surgery for the Association. I am sure that it would meet a very definite demand. In discussing this with a number of individuals I have been surprised to hear some surgeons say: "That will interfere with the *Annals of Surgery*, with the *American Journal of Surgery*, or with *Surgery, Gynecology and Obstetrics*. Not at all. The experience of other countries that have built up medical literature has been that whenever a high class journal in a particular subject was created and made a success, it has stimulated the work in that particular field, and it has helped, and not hindered, the other journals in that field. We have very few surgical journals, and I have no doubt that a surgical journal published by this Association along the lines of the best clinical research would be one of the most desirable additions to our activities.

ANNUAL CONFERENCES

Finally, I want to make this suggestion along the line of the suggestion which I just made, that a plan be developed by which once a year an annual conference on each of the activities which I have hastily discussed be held, at which representatives or delegates from the forty-eight states, or committees representing these activities from these different states, meet with the council or a committee of the American Medical Association in charge of these activities. I feel very strongly on that point. I think that if the House of Delegates this year would approve of a suggestion that would direct each one of the councils or the committees in charge of the great activities of the Association to call together an annual conference of the representatives from the states along those same lines, it would weld the states and the national association into a stronger machine; that it would carry the activities of the national association to the states; that the states would give us many suggestions and very much help in carrying out these activities, so that we can do what we all want to do, give to the people of this country in the fullest possible way the benefits of modern scientific medicine.

Address of the President Elect, Dr. Alexander Lambert

The President Elect, Dr. Alexander Lambert, New York, delivered an address to the House, which was referred to the Reference Committee on Reports of Officers.

The address is as follows:

Mr. Speaker and Members of the House of Delegates:

I have but two recommendations to suggest to you. I am very glad to second that portion of the remarks of President Bevan in which he recommended for your consideration the publication of a new surgical journal. That matter was brought up at a meeting of the Board of Trustees last February, and it was agreed by them to start such a journal as soon as it was feasible with the other work they had in hand.

PUBLICATIONS OF THE ASSOCIATION

There is no question that surgery today is mostly comprised of the technic of how to do things, and there is no surgical journal today taking up the philosophy of infections and the philosophy of the growth of surgery as a science. There is a great gap in the literature of that kind, and a journal of that nature would interfere with no other journal at the present time. It would stimulate other journals to similar action, and it would be a real growth and would fill a place in the profession that is now lacking.

There is another journal I would also recommend, and that is a journal semipopular or popular, if you choose, which would deal with health in its relation to the population and to the public, and express the action and activities that you are endeavoring to do in your Council on Health and Public Instruction. It would be an endeavor to bring to the people a knowledge of what the medical profession is really trying to do, and it would be a journal which would bring with it an enormous clientele, one vastly bigger than any journal that would be brought forward by the Association.

NARCOTIC ADDICTION

There is a condition in the United States which involves seriously the interests, and even the reputation, of the medical profession: that is, the complicated situation arising out of the narcotic drug laws. The amount of opium consumed in the United States has increased to such an extent that a half million pounds of it are imported each year, and yet 50,000 pounds would suffice to furnish all of the legitimate opium, alkaloids and preparations necessary for medical use in the entire country. Not only does the situation concern the natural alkaloids of opium, such as morphin and codein, but it also concerns artificial alkaloids, such as heroin, which, in its effect on the human organism, is much more vicious and evil, and which has largely replaced cocain among the degenerate and criminal addicts. Heroin is also the preparation that is used by the youthful debauchee.

The situation has become such that several states have passed their own narcotic laws to supplement the federal law endeavoring to control a problem which was fast becoming desperate. These laws are making it more and more burdensome for physicians using the narcotics legitimately, but that is a mere annoyance. The responsibility on the medical profession is becoming greater and greater to see to it that some action should be taken against a few renegade and depraved members of the profession who, joining with the criminal class, make it possible to continue the evil and illicit drug trade. For any complete control of the situation, the medical profession must work in harmony with the state and federal governments. The present condition is such that there is no accounting of the amount of opium or of its alkaloids that is imported into this country, and no control over the amount manufactured, or of the destination of the products after they have been passed through the manufacturer's hands. Any one in Canada, Cuba or Mexico can buy in the United States any amount and have it shipped directly to him without any one accounting for a single grain. Any quantity, big or little, can easily be brought back and sold in the United States. In the illicit drug trade, the original packages of the drug used bear untouched the labels of the legitimate manufacturers in this country, and yet no illegal act has been committed by manufacturers or wholesalers or retailers. In one little, obscure drug-store in New York, from which it was found that large amounts of drugs were being dispensed, governmental investigation showed that more than 64,000 prescriptions, written in less than a year, had been legally and regularly dispensed, and lawfully compounded. More than $150,000 worth of opiates was thus given out, and almost every prescription had been written by three physicians, and no illegal act had been committed, but a regular illicit drug trade had been carried on. A few crooked doctors, at present, can undo all the honest endeavors of the rest of the profession in stopping this evil business.

In considering remedies for the situation, there are two elements to be considered: On the one hand, the human element of the unfortunate addict who, already caught in the snare of the drug, must be considered, and not turned out to die or to suffer. On the other hand, the governmental control of the manufacture and sale. Such addicts should be dealt with as those who are physically poisoned, and are medical problems and must be cared for medically. These victims can really be divided into three classes: First, those who are the victims of legitimate medication, having inadvertently continued the use of a drug a sufficient length of time to have acquired a habit, thorough medication for some acute condition. This morbid condition for which the drug was originally taken may long ago have passed, but the habit remains, and they are unable to rid themselves of it or unwilling to confess it, through shame. It was only recently that those having a morphin habit were looked on as morally degenerate, and were condemned as such, though many of the victims were held in the snares of the drug utterly unable to break away from it, and through no question of right or wrong doing. Many of these belonged in the professional classes—doctors, nurses, and others—who, taking a narcotic to tide over some situation, continued it too long and could not break loose. This class invariably longs to be free from the habit, and, if once relieved, rarely, if ever, returns to it.

The second class comprises those who are victims of some incurable, morbid process giving incurable pain. To these people a narcotic is a necessity, and they should be treated openly and frankly, and given the drug in the amount necessary for their relief. They should be known to all physicians, franked by a health department, and the amount necessary for their comfort stated, with interstate reciprocity between health boards, and, if necessary, definite places stated to which they could go and obtain the required amount of their drug by showing their certificate, without being preyed on and mulcted by dishonest purveyors of narcotics.

The third class is composed of the victims of inadequate personalities, degenerates, or criminals. No matter whether they acquired this habit through evil associations or through whatever cause, they are the persons most difficult to deal with. Many of them are youths who, foolishly or through

bravado, took to heroin even in school days and cannot break away from it. Many of this youthful class, however, caught unawares, can be reclaimed. But the real degenerates and criminals are extremely difficult to deal with, and practically cannot be kept from their drug as long as it is possible, through inadequate legal control, to continue the illicit drug trade.

The only certain method of obtaining proper control is for the United States government to have international agreements by which there can be, equally, control and reciprocity of control between the United States and other nations, especially Canada, Cuba and Mexico. Moreover, instead of preventing opium coming into the United States, it should be treated exactly as tobacco is treated—kept in bond, bearing government stamps wherever it goes, with responsible governmental tests and governmental knowledge, through reports, of all alkaloids manufactured. That is, manufacturers should give duplicate or triplicate inventories of sales and of all manipulation of the alkaloids, and there should be, equally, duplicate or triplicate inventories by wholesalers, jobbers and retailers of their transactions in these drugs, thus giving knowledge to the government of the whereabouts and movements of every grain manufactured. This should be especially stringent in the buying and selling across the borders to our neighbors north and south, and governmental reciprocity on their part of any drug or alkaloid coming back through them to the United States. In this way, and through the triplicate inventories of buying and selling, by which both members of the transaction retain a copy and a third copy goes to the government, the transaction and movements in each alkaloid and in the amount of opium used would appear in the morning mail in the Bureau of Internal Revenue. Only through governmental reciprocity, and triplicate inventories one to another, and through treating opium and its alkaloids as a taxable substance in the Internal Revenue Office, requiring accountability for every grain, wherever it goes, can any permanent control be obtained.

There are three elements in the responsibility for this control: one is the government, another is the medical profession, and the third is the pharmaceutical interests—that is, manufacturers, wholesalers and retailers. If these three interests can be brought together to discuss and map out harmonious action, the evils, which today are so notorious in some sections of the country, and are more widespread than is generally recognized in most portions of the country, can be finally controlled and stamped out.

RESOLUTIONS ON NARCOTIC ADDICTION

The following resolutions are recommended to the House of Delegates:

WHEREAS, The abuse of narcotic drugs has become such a widespread evil that it has required action by the federal government.

WHEREAS, The situation can only be controlled by cooperation and concerted action by the medical profession, the pharmaceutical interests, and state and federal laws; therefore, be it

Resolved, That the American Medical Association respectfully requests the Internal Revenue Department of the federal government to call together a conference composed of representatives of the medical profession, the wholesale and retail drug interests, and representatives from each state. And further, be it

Resolved, That the Speaker of the House of Delegates of the American Medical Association be instructed by the House of Delegates to appoint a committee of three to represent the American Medical Association at such a conference if called.

[Here are inserted reports of the Secretary, the Board of Trustees and the Judicial Council.]

The report of the Judicial Council was referred to the Reference Committee on Amendments to the Constitution and By-Laws.

Tribute to Dr. James Edward Moore and Our Soldier and Sailor Dead

At the conclusion of the report of the Judicial Council, the Speaker said: Perhaps every member of this House remembers Dr. James Edward Moore with respect. The majority of us remember him with affection. I will ask the members of the House to stand for a moment in respectful silence in memory of this great man and of our soldier and sailor dead. Whether they rest in home-made graves or under rude crosses overseas, the poppies of memory will wave over them forever.

The members of the House then arose and stood in silence for a few moments, as requested by the Speaker.

Resuming, the Speaker said: When this House adjourns, it will do so in memory of our departed soldier and sailor dead and Dr. Moore.

The report of the Council on Health and Public Instruction followed.

Second Meeting—Monday Afternoon, June 9

The House of Delegates reconvened at 3 p. m.

Supplementary Report for Committee on Credentials

Dr. C. P. Meriwether, Arkansas, Chairman, presented a supplementary report for the Committee on Credentials, stating that 103 delegates had registered and were entitled to be seated in the House, with the exception of the delegate from the state of Wyoming. The delegate representing this state, Dr. Lee Thorp, presented credentials signed by the secretary of the state association, although these credentials had not been presented to the Secretary of the American Medical Association prior to the meeting as they should have been. In view of this slight irregularity, the committee recommended that Dr. Lee Thorp be seated.

Dr. Clarence Pierson, Louisiana, moved that the report be adopted, and that Dr. Lee Thorp be seated as a delegate.

[Here the report of the Council on Medical Education was read.]

Report of the Council on Scientific Assembly

In the absence of the Chairman, Dr. E. S. Judd, Minnesota, the Secretary read this report, which was referred to the Reference Committee on Sections and Section Work, with the exception of that part of the report which deals with an amendment to the By-Laws, and this part was referred to the Reference Committee on Amendments to the Constitution and By-Laws. The amendment related to Chapter XI, Section 3, to read as follows: "The election of officers of the several sections shall be the first order of business of the final meeting of the sections at each Scientific Assembly."

Report of the War Committee

The Secretary, at the request of the Speaker, read this report, which was referred to the Reference Committee on Reports of Officers.

Report of the Subcommittee from the Council on Health and Public Instruction on Women's and Children's Welfare

Inasmuch as neither the Chairman, Dr. Lenna L. Meanes, nor the Secretary, Dr. M. L. Turner, was present, it was moved by Dr. C. E. Cantrell, Texas, that this report be referred to the Reference Committee on Legislation and Political Action.

Seconded and carried.

Social Insurance

Dr. Alexander Lambert, New York, Chairman, presented the report of the Subcommittee on Social Insurance, which was referred to the Reference Committee on Legislation and Political Action.

New Business

Under the head of "New Business," Dr. Randolph Winslow, Maryland, presented the following resolution at the request of Dr. John C. Hemmeter, of Baltimore:

RESOLUTION ON MONUMENT TO YELLOW FEVER COMMISSON

Resolved, That a committee of six be appointed to make known to Congress the duty of establishing a national monument to the three members of the Yellow Fever Commission, Major Walter Reed, Major James Carroll and Dr. Jesse Lazear, the greatest benefactors of the American people and of the world.

This resolution was referred to the Board of Trustees.

RESOLUTION ON PUBLICATION OF RESOLUTIONS IN HANDBOOK

Dr. M. L. Harris, Illinois, offered the following resolution, which was referred to the Reference Committee on Rules and Order of Business:

Resolved, That the Secretary be instructed to have published in the Hand Book as an addendum all resolutions that express an opinion or policy of the Association that have been adopted by the House of Delegates during the past five years, and that this addendum be added to from year to year as new resolutions are adopted, so that the members of the House may know what opinions and policies have been approved by this body.

RESOLUTION ON PUBLICATIONS OF SURGEON-GENERAL'S OFFICE

Dr. H. M. Brown, Wisconsin, presented the following preambles and resolution:

WHEREAS: During the period of the late war, there were produced at Washington, by the Surgeon-General's Department, for the use of the surgeons of the Army and Navy, a number of books which are of the greatest value to the members of the general medical profession, and,

WHEREAS: Some or most of these books were produced from or by combination of material taken from copyrighted books published by private corporations or individuals (especially among these were certain invaluable works on surgical anatomy and practical surgery), and

WHEREAS: Under the law presently existing, these books cannot be sold or disposed of to the general profession, but must be destroyed, therefore, be it

Resolved, That this Association by its Board of Trustees or through a special committee take action to the end that means be found whereby these books may be placed within the reach of the members of the medical profession, by purchase or by such other means as may be legally followed, and that they may thus become an asset both to the country and to the medical profession, instead of an irremediable loss.

These preambles and resolution were referred to the Reference Committee on Miscellaneous Business.

RESOLUTIONS ON NATIONAL DEPARTMENT OF HEALTH AND TUBERCULOSIS COMMISSION

Dr. C. P. Merriwether, Arkansas, offered the following resolutions:

WHEREAS: Tuberculosis destroys more life and health in the United States than any other single agency, nearly 200,000 American citizens dying of this disease every year, and whereas it is a communicable, preventable, and in its early stage a curable disease; therefore, be it

Resolved, First, that we believe it is a duty which the national government owes to the people it represents to formulate a plan, adopt measures, and supply meetings for the prevention and cure of this disease throughout the United States and our dependencies.

Resolved, Second, we believe that the best means of accomplishing this would be through the establishment by the United States government of a department of health with a medical cabinet officer at its head to take over and coordinate all medical work now being performed by the various boards, commissions and bureaus, some seventeen in number, operating under the Treasury, Commerce, Interior, Labor and other departments, thus reducing operative expenses, concentrating efforts, and increasing efficiency and conserving the life and health of the nation.

Resolved, Third, we believe, pending the establishment of a department of health, a commission to be known as the United States Tuberculosis Commission should be appointed, with ample authority and means to organize, make plans, and carry on throughout the nation the work of preventing and curing tuberculosis.

Resolved, Fourth, that copies of these resolutions be sent to the President, to all members of Congress, the National Association for the Prevention of Tuberculosis, to the Surgeon-General of the Army and the Surgeon-General of the Navy and Surgeon-General of the United States Public Health Service, and to all state medical societies and other organizations known to be engaged in the work of preventing and curing tuberculosis.

Resolved, Fifth, that all the above named persons and organizations are asked and urged to cooperate in this plan to the end that the ravages of tuberculosis and other preventable diseases may be prevented and the life, health, and wealth of our nation conserved.

These resolutions were referred to the Reference Committee on Legislation and Political Action.

AMENDMENT ON NOMINATIONS AND ELECTIONS

Dr. E. Eliot Harris, New York, presented the following amendment, which was referred to the Reference Committee on Amendments to the Constitution and By-Laws:

To amend Chapter IV, Section 2, of the By-Laws, by adding at the end of the section, "provided, however, when there is only one nominee for office, a majority vote without ballot may elect him."

Report of Reference Committee on Reports of Officers

Dr. Hugh T. Patrick, Illinois, presented the following report of the Reference Committee on Reports of Officers:

To the House of Delegates:

Your Reference Committee on Reports of Officers begs to make a partial report as follows:

First, with reference to the address of the President-Elect, your committee recommends:

1. That the American Medical Association respectfully request Hon. Daniel C. Roper, Commissioner of Internal Revenue, United States Treasury Department, to call a conference of representatives from each state and territory of the medical profession and of the wholesale, retail and manufacturing drug interests, and such other citizens as he may consider desirable, with a view to controlling the traffic in and harmful consumption of narcotic drugs.

2. That the Speaker of the House of Delegates be instructed to appoint a committee of three to represent the American Medical Association at the above-indicated conference, if called.

Second, with reference to the address of the Chairman of the House of Delegates, your committee recommends:

1. That the Trustees be instructed to establish a Council on Hospitals as an independent body or a Bureau on Hospitals as a body subsidiary to one of the already existing Councils, the details of the organization to be left to the Trustees with power to act.

2. That questions raised by the honorable speaker on premedical and undergraduate medical study be referred to the Council on Medical Education.

3. That the Council or Bureau on Hospitals, if established by the Trustees, be requested earnestly to take up the subject of the training of nurses with a view of ameliorating the present distressing nursing situation.

The report was considered seriatim, and on several motions which were duly seconded and carried, the report was adopted.

Resolution on Social Insurance

Dr. Floyd M. Crandall, New York, presented a resolution on Social Insurance, which was referred to the Reference Committee on Legislation and Political Action.

Resolution on Narcotic Addiction

Dr. E. Eliot Harris, New York, presented the following resolution, which was referred to the Reference Committee on Hygiene and Public Health:

Resolved, That the Council on Health and Public Instruction be directed to study the entire narcotic drug situation, economic and medical, in the United States and report to the House of Delegates at the next meeeting.

On motion, the House of Delegates adjourned to meet at 9:30 a. m. Tuesday, June 10.

(To be continued)

Fish in Relation to Mosquito Control in Ponds.—Under the direction of the U. S. Public Health Service, Samuel F. Hildebrand of the U. S. Bureau of Fisheries, conducted an investigation into what use, if any, could be made of fish for the purpose of controlling malaria by annihilating mosquitoes and their larvae. The result of his work was very encouraging. He found that the *Gambusia affinis* is especially suitable for antimosquito work because (*a*) it seeks its food at the surface; (*b*) it is very prolific; (*c*) it gives birth to well developed young, therefore requiring no special environment for depositing and hatching the eggs; (*d*) it lives and thrives under a large variety of conditions and frequents areas especially suitable for the support of the mosquite larvae; (*e*) it usually lives and multiplies in ponds stocked with predacious fishes, providing it has very shallow water for refuge. The "star headed minnow," *Fundulus nottii*, was also found to be of value in antimalaria work. Its habits are very similar to those of Gambusia.—*Pub. Health Rep.* **34**:1113 (May 23), 1919.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 NORTH DEARBORN STREET . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

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SATURDAY, JUNE 14, 1919

MOSQUITOES AND CULICIFUGES

The surest and safest way to avert the menaces to human health and comfort which are presented by the mosquito lies in its eradication. However ideal diverse plans for this purpose may be, even the most enthusiastic hygienist will admit that they cannot be carried out except by a long, carefully conducted antimosquito campaign which will extend over years rather than days or weeks. Meanwhile, occasions arise when individuals and groups of men must be protected, if possible, from the annoyance and the dangers of mosquito bites. Here, as in so many other instances, wartime conditions have pointed to the urgent need. Troops compelled to travel through malarious regions, soldiers posted in places where mosquitoes abound, and civilians driven into the abodes of these insects, may demand immediate, though only temporary, protection.

The enemy which cannot be destroyed can sometimes be repelled. Herein lies the usefulness of the culicifuge—a preparation intended to ward off the attacks of mosquitoes. Recently many chemical preparations have been tested at the Lister Institute in London, with respect to their suitability for this purpose. Bacot and Talbot,[1] who undertook this important investigation, which also included the undoubtedly disagreeable task of serving as subjects for the tests, found a number of readily available mixtures that proved to be fairly satisfactory, although none gave complete protection. The method of testing them consisted in ascertaining the number of bites on treated and untreated bared arms from caged hordes of mosquitoes. The "treatment" involved coating the exposed arm from the wrist to the elbow with the alleged culicifuge. In this way some efficiency was demonstrated in preparations in which the active ingredients were oil of cassia and camphor, oil of cassia and peppermint, oil of eucalyptus and citronella with phenol, crude coke-oven naphthalene and camphor, light wood oil, and oil of turpentine, as well as a number of proprietary products of unrecorded composition.

From a practical standpoint it was found that fluid preparations were inconvenient and tended to be wasteful in application. Soap preparations, unless very soft, are apt to be difficult of economical use, and in either case are more readily dissipated by perspiration than waxy or greasy preparations. Culicifuges prepared with grease are more easily applied but are not so lasting as those put up with wax. Soft wax preparations, correctly adjusted to the temperature in which it is proposed to use them, are most suitable for outdoor use, especially in the case of troops. The retarding of volatilization caused by the admixture of the active ingredients with wax or grease is a distinct advantage, but care must be exercised in respect to the relative proportion of active substance to the base. The golden rule, Bacot and Talbot add, is to use as much of the active constituent and as small a quantity of the inert base as is consistent with convenient application and the prolonging of the period of efficiency, not, as most proprietary compounders appear to think, as little as possible of the active constituent.

The preliminary observations of the British entomologists indicate that the period of protection with products such as those here described cannot be depended on to extend over more than two hours. This may nevertheless be sufficient to offer an enormous advantage in certain regions. It has generally been assumed heretofore that the culicifuges act by presenting a repulsive odor to the insects. Bacot and Talbot favor the suggestion, however, that the protection afforded does not result from a dislike of the mosquitoes to the culicifuge but from its obscuring the attractiveness of the human odor. The mosquito season is at hand again with us, so that the new suggestions as to these tested palliative measures may be both timely and helpful.

1. Bacot, A., and Talbot, G.: The Comparative Effectiveness of Certain Culicifuges Under Laboratory Conditions, Parasitology **11**: 221 (Feb.) 1919.

MITOCHONDRIA

Microscopic anatomy, which is still diligently inquiring into the nature of cell structure, has recently shifted its interest in no small measure from the nucleus to the cytoplasm. As a result, a definite type of cytoplasmic granules now known as mitochondria, a term first introduced by Benda in 1899, has become recognized and has been extensively studied. E. V. Cowdry[1] has recently summarized our present knowledge concerning these bodies. They have a variety of shapes: sometimes they are filamentous or rodlike, and again pear-shaped or granular. While their size varies greatly in different cells and even in a single cell, it seems to be the rule that the cells of certain tissues in different animals have similar mitochondria. Cowdry believes that here is shown a correlation of cellular function and morphology.

The fundamental importance of mitochondria is evidenced by their wide distribution. They have been demonstrated in plants, from the thallophytes to the

1. Cowdry, E. V.: The Mitochondrial Constituents of Protoplasm, Contributions to Embryology, **8**, No. 25, Carnegie Institution, Washington, 1918.

spermatophytes, and in animals, from protozoa to man. Within the cell these variable bodies are generally indefinitely arranged; in gland cells, however, they usually show a polar distribution. Cowdry suggests that this distribution may indicate cell polarity and form a basis for the interpretation, according to mitochondrial distribution, of the origin or position of intracellular activities. He also maintains that their position and relation with respect to other cell constituents may make them an index of the deviation from the normal in cells.

Some interesting data as to variations in the amount of mitochondria have been gathered. Wherever there is marked cellular activity, as in cytomorphosis and regeneration, the amount increases; but where cellular activity is lessened, it decreases. Again, these bodies occur in inverse ratio to the fat content of cells. If it be assumed that the fat content of cells increases as the respiratory activity diminishes, it is noted that mitochondria are associated with high degrees of respiratory activity. Chemically, these bodies are composed of a combination of phospholipin and albumin, as has been demonstrated chiefly by response to various stains and reactions to fat solvents, acids and certain salts. While closely similar in plants and animals, there is no doubt that the chemical composition varies slightly. The interest of modern physiologic chemistry in phospholipins happily makes possible in this case the correlation of physiologic chemistry and cytology, the importance of which Wilson[2] has so constantly emphasized.

The demonstration of the chemical nature of mitochondria has rendered untenable many of the older views of the genesis of fibrils, pigment, secretion, etc., from them. Tentatively, it may be said that they are closely related to the fat metabolism in the cells; but this is probably not their only metabolic relationship, since they seem to be present in plant and animal cells regardless of the type of metabolism. How essential a part they play in metabolism cannot be stated definitely at this time. As has been mentioned, they seem closely related to respiratory activity. Chemically they are well suited to change by oxidation or reduction. They are diminished in amount by agents that decrease respiratory oxidations, such as chloroform or ether. As mitochondria are a far more sensitive index of cell activity and injury than is the nucleus, they no doubt will prove of increasing interest in pathology. The studies of the mitochondrial content of the cells of the nervous system, the pancreas and the thyroid seem to be yielding promising results. As regards the characteristics and significance of mitochondria in tumors, Cowdry holds that the scattered observations so far at hand permit of no final statements. Here investigation of tumors in animals under controllable experimental conditions may prove of great value. Enough has been said to show that a new field for work has been laid open for the pathologic anatomist and microchemist.

2. Wilson, E. B.: The Cell in Development and Inheritance, New York, The Macmillan Company, 1911.

GRADUATE MEDICAL INSTRUCTION IN THE UNITED STATES

During the last few months, reference has been made in THE JOURNAL to increased activities in the development of graduate medical instruction in England and France. Both of these countries have established what is termed an "Interallied Fellowship in Medicine,"[1] providing graduate courses for qualified medical officers of the allied countries having armies in Europe. In London an elaborate program has recently been adopted[2] which calls for a graduate medical association; cooperation of all medical schools; increased privileges for graduate students; a pooling of all hospital facilities, and the securing of cooperation of America and France. Paris also is endeavoring to make that city more prominent as a center of postgraduate medical instruction.

We note with interest these laudable efforts to develop graduate medical instruction in London and Paris, and will rejoice if these efforts are successful. At the same time, however, we must not overlook our own shortcomings in this particular field. For many years the United States lagged behind other countries in improving medical education, but has partly redeemed itself by the almost revolutionary changes in undergraduate medical education through which commercialism has practically disappeared. An equal or greater improvement is essential in graduate medical instruction. Private graduate schools are not satisfactory and do not meet the present-day requirements. Harvard, Pennsylvania, Minnesota, California and Tulane have established graduate medical schools, but in none of them has graduate teaching developed to the extent that it has in some European cities. In the large cities of this country the student is still compelled to wander from school to school or from hospital to hospital to find the courses desired. To obtain sufficient clinical material in a desired specialty he is compelled to seek courses in several institutions rather than in one, and even then usually finds that the courses are held at such times that he cannot register for them. As a consequence, he cannot utilize all his time without registering for courses he does not want. The usual result of his search has been a waste of time, a loss of objective, and disappointment.

In many of our large cities, an abundance of clinical teaching material is now going to waste which, with a proper organization, could be utilized in graduate

1. Interallied Fellowship in Medicine, J. A. M. A. **72**: 588 (Feb. 22); 742 (March 8); 1388 (May 10) 1919.
2. Graduate Medical Education in London, J. A. M. A. **72**: 1478, 1484 (May 17) 1919.

courses to the great benefit of the medical profession, and ultimately to the public in the development of more skilled physicians. The situation in each city calls for (*a*) affiliation of all hospitals and schools having clinical teaching facilities; (*b*) organization of a single graduate medical school; (*c*) special provision for the needs and convenience of graduate medical students; (*d*) generous opportunities for the graduate student to develop skill by actually treating or operating on patients under competent instruction, and (*e*) the listing of all courses in such a manner that related courses do not conflict. Finally, when graduate medical instruction has been more satisfactorily developed, we should seek to cooperate with other countries in the exchange of teachers, clinical assistants and graduate students. Especially should there be a close cooperation with our Latin neighbors of Central and South America. The latter countries are showing a desire to establish both commercial and educational relations with the United States. In the lines of medical education, especially, everything should be done to encourage this desire and to make the relations beneficial and permanent.

GLYCURESIS VERSUS GLYCOSURIA

Not long ago we commented on the suggestion of S. R. Benedict[1] that progress in the study of carbohydrate metabolism would be more rapid if the term "glycosuria" were abolished. According to his contention, some sugar elimination, however small, takes place continuously through the kidneys. This contention has been advanced by others to explain the finding of reducing substances in the urine of presumably healthy persons. Since glycosuria implies a sudden point at which sugar appears in the urine, a term is needed to express the constant presence of sugar in normal urine and an excess of sugar elimination above normal limits. Benedict accordingly coined the expression "glycuresis" to signify the increased absolute elimination of sugar per hour as compared with the control period. The experimental data indicated that food ingestion is the controlling factor in physiologic sugar elimination.

These interesting conclusions were not entirely convincing owing to the paucity of observations on record. It must not be assumed that the physiologic urinary sugar content is significant because of its absolute value. The latter falls below the limits of all but highly delicate methods of analysis; indeed, it may be questioned whether the small amount of "reducing substance" detected in normal urines is in reality glucose.

In the midst of this uncertainty the evidence in favor of the views of Benedict has been supplemented by the observations of Bailey,[2] which seem to indicate that a normal person, when uninfluenced by food or fluid intake, has reducing substances present in equal concentration in both blood and urine. Following the ingestion of glucose, urine sugar parallels that of the blood up to the latter's concentration of from 0.16 to 0.17 per cent. As the blood sugar increases beyond this point the kidneys actively excrete sugar. This excessive excretion decreases as the hyperglycemia passes off. Glycuresis, says Bailey, is a kidney function and is excessive in diabetes and hyperthyroidism. It is greatly decreased in nephritis and with deficiency of the thyroid or hypophysis. The concentration of blood sugar at which glycuresis occurs varies in different individuals, and is influenced by disease, being abnormally low in early diabetes, high in diabetes of long standing, in nephritis, and with deficiency of the thyroid or hypophysis. Of late the blood sugar has received preeminent attention in the accurate determination of the capacity for carbohydrate metabolism. Perhaps the study of the urinary output will again claim an equal share of importance in the study of carbohydrate tolerance.

Current Comment

THE VICTORY MEETING

As this issue of THE JOURNAL goes to press the VICTORY MEETING is in session at Atlantic City. The registration up to 4 o'clock Monday was 1,265, and on Tuesday, over 3,000. The meeting, therefore, promises to be well attended, and the interest displayed by those physicians fortunate enough to be in attendance indicates a session of great scientific and practical importance. In this issue appear the minutes of the first meeting of the House of Delegates, Monday, June 9, and the address of the president, Dr. Alexander Lambert, New York, delivered Tuesday night. The remainder of the minutes, both of the House of Delegates and of the Scientific Assembly, will appear in the issue for next week.

THE PROTEINS OF RAGWEED POLLEN

The establishment of a relationship between hayfever and the pollen of plants has brought about an unusual interest in the chemistry of the pollen grains. If the phenomena of this widely prevailing disease are to be referred correctly to the specific etiologic factors, it will become necessary to know what components of pollen are responsible for the morbid manifestations. Opinion has been somewhat divided on this point. Some have believed that the harmfulness of the pollen is due to a toxic agent of comparatively simple constitution, although the majority of the writ-

1. Benedict, S. R.; Osterberg, E., and Neuwirth, I.: A Study of the Urinary Sugar Excretion of Two Normal Men, J. Biol. Chem. **34**: 217 (April) 1918.

2. Bailey, C. V.: Studies on Alimentary Hyperglycemia and Glycosuria, Arch. Int. Med. **23**: 455 (April) 1919.

ers in recent years seem to be committed to the belief that some protein in the plant structures is at fault. Obviously, clarity could be infused into the discussion if the chemical components of pollen were known and isolated, so that direct experiments could be performed with them. Pollen is, however, not very readily obtainable in large amounts for investigation, so that progress has been slow. Recently Heyl[1] has obtained an albumin, a proteose and a glutelin from the pollen of the ragweed (*Ambrosia artemisiaefolia*). A mixture of the albumin and proteose was demonstrated to have antigenic properties, so that anaphylactic reactions could be brought about by them in animals. This observation is of interest in view of the earlier assertion that anaphylaxis cannot be produced with pollen extracts.[2] Various bases, including histidin, lysin, arginin and agmatin, are also present in pollen; but for the present it seems more likely that the potent factor in the untoward responses elicited by the grains is associated with their proteins, which ought to receive thorough investigation as a preliminary to the further development of immunologic or preventive measures for treating the harm attributable to them.

TOXIC MANIFESTATIONS OF ARSPHENAMIN

The death of the patient which has been observed in some instances to follow the administration of arsphenamin has occasioned much concern to those who are compelled to administer this potent drug in human therapy. Among the symptoms observed in these cases of acute collapse are dilatation of the heart and a fall in systemic blood pressure. So far as can be learned from animal experiments, there may be increased pulmonary blood pressure. The reaction of the internal organs seems to be variable. The occasional toxicity of preparations of arsphenamin has been attributed to intermediary compounds employed or arising during the process of manufacture. A number of these have been tested experimentally at the Hygienic Laboratory of the U. S. Public Health Service. The report is that they are not very poisonous and cannot account for the variable toxicity of different samples of arsphenamin which may or may not contain traces of one or more of them.[3] The possibility that the acute reactions often seen after arsphenamin administration in the clinic may be attributable to precipitates forming in the blood stream has also been suggested by several investigators; but it receives no support from the government pharmacologists. They charge the reaction to the alkalinity of the solutions used for injection and to the specific action of the arsphenamin itself. Wherever the real explanation of the unexpected toxicity may be proved to reside, the management of the symptoms of collapse is a question in practical therapy. Epinephrin has commonly been employed to combat the condition. Jackson and Smith[3] are, however, inclined to recommend a trial of tyramin in suitable cases. Hewlett[4] has already employed it as a blood-pressure raising substance in hypodermic doses of 60 mg. (1 grain). The systemic pressure does not rise so high and the danger of acute dilatation of the heart is not so great as with the intravenous injection of epinephrin, according to Jackson and Smith, but the effects of tyramin are much more lasting. These investigators are extremely cautious in their advice, however. While they are by no means sure that the use of the drug might in any degree decrease the number of fatalities that from time to time occur under the use of arsphenamin, yet in their own words, they believe it is more logical and more likely to be of real value in these cases than is any other drug with which they are acquainted. This conclusion is far from convincing; but when a real danger exists, every reasonable prospect of averting it deserves some serious consideration.

1. Heyl, F. W.: The Protein Extract of Ragweed Pollen, J. Am. Chem. Soc. **41**: 670, 1919.
2. Cooke, R. A.: Flood, E. P., and Coca, A. F.: J. Immunol. **2**: 217 (Feb.) 1917.
3. Jackson, D. E., and Smith, M. I.: An Experimental Investigation of the Cause of Early Death from Arsphenamin, and of Certain Other Features of the Pharmacologic Action of the Substances, J. Pharmacol. & Exper. Therap. **12**: 221 (Nov.) 1918.
4. Hewlett, A. W.: The Action of Tyramin on the Circulation of Man, Arch. Int. Med. **21**: 411 (March) 1918.

Medical Mobilization and the War

Personnel of the Medical Department

For the week ending June 6, there were 14,906 officers in the Medical Corps, a decrease of 400 from the previous week. The Medical Reserve Corps contained 2,061 officers. The total number of medical officers discharged since the beginning of the war is 17,355.

Legislation to Provide Civilian Medical Care for Soldiers on Furlough

The Secretary of War is authorized to arrange for the employment of civilian medical authorities and facilities for the care of officers and enlisted men of the army who require medical attention while on furlough, in a measure presented to Congress by Congressman Rogers of Massachusetts. It is required that the disability originate in the line of duty.

Promotions to Be Resumed

The Surgeon-General has been authorized, as have been other corps commanders, to resume promotions of officers under certain restrictions. For a time after the signing of the armistice no promotions were made, but the ban is off if requirements are met. The chief requirement is that the officer recommended for promotion must be performing the work of an officer for the rank for which he has been recommended.

General Hospitals Closed

U. S. General Hospital No. 18, Waynesville, N. C., and U. S. General Hospital No. 35, West Baden, Ind., have been officially closed.——The hospital at the U. S. Quartermaster Terminal, Sewell's Point, Va., is to be transferred to the U. S. Public Health Service.

Bill for Medical Department of the Navy

A bill has been introduced by Congressman George Darrow of Pennsylvania to increase the efficiency of the Medical Department of the Navy. The President, authorized to appoint officers in the Hospital Corps of the Navy, in addition to chief pharmacists and pharmacists, at the rate of one for each 2,000 officers and enlisted men in the Navy and Marine Corps. The ranks are to be lieutenant commander, lieutenant, junior grade, and ensign. They are to perform such duties in the Hospital Corps as may be prescribed by the Secretary of the Navy.

Army Rank for Nurses

The bill to grant army rank for nurses in the army service, in which thousands of nurses throughout the country are interested, has been introduced in the House of Representatives by Representative Hernandez of New Mexico and referred to the House Committee on Military Affairs, of which Julius Kahn of California, is chairman. The measure provides: "that the members of the Army Nurse Corps shall have relative rank as follows: The superintendent shall have the relative rank of major; the assistant superintendents, directors and assistant directors the relative rank of captain; chief nurses the relative rank of first lieutenant; and nurses, the relative rank of second lieutenant; and as regards medical and sanitary matters and all other work within the line of their professional duties shall have and shall be regarded as having authority in and about mliitary hospitals next after the medical officers of the Army, and shall wear the insignia of the rank of the Army to which their rank corresponds."

Sites for Military Hospitals

A report on the selection and acquisition of sites for military hospitals has just been submitted to the United States Senate by a special committee appointed some time ago to make an investigation and recommendations. The committee was directed to "investigate the selection and acquisition of sites for military hospitals, and contracts and expenditures for the repair, acquisition and construction of such hospitals and ascertain what additional hospitals facilities are required." It is officially reported that the Naval hospitals have a total capacity of 15,000 beds, while the Army has a total bed capacity of 110,000 beds. Almost one half of the beds of the Army are unused and will be turned over to the Public Health Service which is charged with the administration of the War Risk Insurance Act in the work of caring for and giving treatment to the men disabled in the war. About 80,000 discharged soldiers and sailors are entitled to this treatment. In view of this large work, the committee has recommended the erection of a tuberculosis hospital at Dawson Springs, Ky., with a capacity of 500 beds, a gift of a tract of land of 5,000 acres having been made in connection with this site. A new hospital plant at Norfolk, Va., is also recommended because of the war risk obligation and because of the fact that Norfolk has heavy demands for hospital service from men in the merchant marine, being the second largest Atlantic seaport. A hospital in or near Washington, D. C., is also recommended, which district is regarded as having insufficient hospital facilities in view of the demand. The adoption of the Speedway, or Maywood Hospital, near Chicago, also is strongly recommended. No other new sites are approved. Fire-resisting construction is recommended in so far as it is at all possible. An appropriation of $190,000 for an addition to the marine hospital at Staten Island, N. Y., and of $750,000 to remodel and adapt existing hospital facilities in and near New York City are recommended because of the large number of cases in that vicinity. The conversion of some facilities at Hot Springs, Ark., is advised. It is thought that these combined facilities will meet the needs of the reconstruction work of the government. The report is signed by Senators Hardwick, Beckham, Trammell, France and Lenroot and was presented to the Senate, June 2. Had the war continued until 1919, as was officially anticipated, the War Department would not have had sufficient hospital facilities to care for the wounded men, according to the report, but the early end of hostilities saved a large sum to the government by reason of this program.

Weekly Bulletin A. E. F. Gives Interesting Statistics

(May 26, 1919)

The *Weekly Bulletin* of the American Expeditionary Forces for May 26 gives some interesting totals.

1. From June 15, 1917, to Feb. 28, 1919, inclusive, there were 708,335 cases of disease, causing a loss of 8,277,657 days of service.

There were 225,955 cases of traumatism (including all battle casualties), causing a loss of 2,705,588 days of service, or a combined total of 934,290 cases, and a loss of 10,983,245 days of service, or 30,091 years.

2. Of the cases of disease: 90.2 per cent. returned to duty; 6.0 per cent. were invalided home; 3.3 per cent. died in hospital and 0.5 per cent. deserted.

Of the cases of traumatism: 73.8 per cent. returned to duty; 21.1 per cent. were invalided home; 5.7 per cent. died in hospital, and 0.4 per cent. deserted.

3. The average time in hospital for both classes of cases was 11.7 pays per case. Of those reported as deserted many are believed to have left the hospitals to return to the front.

4. Mumps has caused the greatest loss of days from non-effectiveness due to disease. There have been 83,202 cases of mumps, with a loss of 1,000,424 days of service in the A. E. F., from July 1, 1917, to March 31, 1919. There were only forty-three deaths from mumps during that period.

5. The greatest number of deaths from disease of all kinds was due to pneumonia. There were 28,292 cases of pneumonia, causing a loss of 622,424 days of service in the A. E. F., from July 1, 1917, to March 31, 1919, inclusive, with 12,361 deaths.

6. Of all deaths in the A. E. F., 32 per cent., or two in seven, died from disease.

Of total deaths from disease for the period June 15, 1918, to March 31, 1919, inclusive, numbering 17,691, there were: 11,786 deaths from pneumonia, or 66.6 per cent.; 715 deaths from meningitis, or 4.0 per cent.; 515 deaths from influenza, or 2.9 per cent.; 351 deaths from tuberculosis, or 1.4 per cent.; 143 deaths from typhoid and paratyphoid, or 0.8 per cent.; 64 deaths from measles, or 0.3 per cent.; 40 deaths from diphtheria, or 0.2 per cent.; 29 deaths from dysentery, or 0.16 per cent.; 27 deaths from scarlet fever, or 0.15 per cent., and 4,021 deaths from all other diseases, or 22.7 per cent. Of all wounded 1 in 14 died.

7. The average rate of venereal diseases was under 40 per thousand per year.

8. Total mental diseases, including mental deficiency, from June 15, 1917, to April 27, 1919, were 12,266 cases of which 8,076 were returned to duty.

9. Total number of cases evacuated from the front 214,487. Total number of patients evacuated to the United States to April 22, 1919, 119,974.

10. Maximum number of beds with date was 299,835 beds on Nov. 21, 1918. (Including convalescent camps, but not evacuation hospitals or other Army units) S. O. S. only.

Maximum number of patients with date was 193,026 on Nov. 12, 1918. (Including convalescent camps). S. O. S. only.

11. The maximum number of hospital centers was twenty-three on Dec. 5, 1918.

12. The maximum number of base hospitals operating at one time was 122 on Jan 2, 1919.

13. The maximum number of camp hospitals operating at one time were sixty-four, on Feb. 6, 1919.

14. The maximum number of convalescent camps was fourteen.

15. Total number of camp hospitals operated during entire period was ninety-seven.

16. Losses in A. E. F., June 15, 1917, to April 15, 1919, inclusive: killed in action, Army and Marines, 33,827; died of wounds, 14,190; wounded, 201,230; died of disease, 22,986; died of other causes, 4,281.

17. Among the medical supplies received by the A. E. F. were: ether, 913,480 pounds, sheets, 3,790,268; foot powder (talcum), 3,024,029 pounds, equal to 1,512 tons; gauze, 107,055,986 yards, equal to 61,338 miles. Unrolled it would extend nearly two and a half times round the would.

MEDICAL OFFICERS, U. S. NAVY, RELIEVED FROM ACTIVE DUTY

CALIFORNIA
Los Angeles—Janss, E.
Sacramento—Littell, J. C.
San Diego—Irvine, R. S.
San Francisco—Mager, H. A.

DELAWARE
Delaware Breakwater—Hart, G. G.

GEORGIA
Douglas—Wilson, J. F.
Marietta—Holland, R. N.

ILLINOIS
Chicago—Klaus, R. W.
Evanston—McGill, E. C.

LOUISIANA
New Orleans—Remley, G. C.

MAINE
Bath—Hannigen, R. C.

MARYLAND
Baltimore—Watkins, S. S.

MASSACHUSETTS
Fall River—Butler, G. E.
Somerville—Newton, E. R.

NEW JERSEY
Atlantic City—White, J. T.
Trenton—Douress, P. C.

NEW YORK
Locust Valley—Scudder, F. D.
Rochester—Otis, W. K.

NORTH CAROLINA
Middlesex—Lewis, S. V.
Raleigh—Procter, I. M.

PENNSYLVANIA
Johnstown—Entwisle, R. M.
Philadelphia—Pennington, J.
Rosenthal, J. M.

VIRGINIA
Petersburg—Burke, H. A.

HONORABLE DISCHARGES, MEDICAL CORPS, U. S. ARMY

Owing to a change in the plan of sending this material from the Surgeon-General's Office to THE JOURNAL, no discharges are available for publication this week. Publication of this list will be resumed next week.

ORDERS TO OFFICERS OF THE MEDICAL CORPS, U. S. ARMY

Alabama

To Camp Bowie, Texas, from Camp Sherman, Lieut. J. H. WINN, Huntsville.

To report to the commanding general, Southern Department, from Camp Shelby, Capt. W. W. LONG, Fayette.

California

To Camp Bowie, Texas, from Camp Kearney, Major C. E. SISSON, Norwalk.

To Camp Kearney, Calif., from San Francisco, Col. E. B. FRICK.

To Fort Sheridan, Ill., from Camp Shelby, Lieut. O. P. STOWE, Mill Valley.

To report to the commanding general, American Expeditionary Forces, from Camp Kearney, Lieut.-Col. H. P. CARTER. Western Department, from Camp Dix, Major V. H. HULEN, San Francisco.

To Walter Reed General Hospital, D. C., from San Francisco, Major A. J. CANNING.

District of Columbia

To Biltmore, N. C., from Fort Oglethorpe, Lieut. E. S. GREEN, Washington.

To Fort Jay, N. Y., from Surgeon-General's Office, Col. E. A. DEAN.

To San Francisco, Calif., Letterman General Hospital, from Army Medical School, Lieut. A. L. GUERRA, Washington; from Walter Reed General Hospital, Col. R. REYNOLDS.

Florida

To Baltimore, Md., from Atlanta, Capt. J. F. WILSON, Lakeland.

Georgia

To Camp Bowie, Texas, from Fort Oglethorpe, Capt. W. A. WILLIAMS, Monticello.

To Camp Bragg, N. C., from Camp Dix, Lieut. J. R. TURNER, Temple.

To Camp Zachary Taylor, Ky., from Camp Dix, Lieut. J. M. TRIBBLE, Senoia.

Illinois

To Army Medical School for instruction, from Camp Lee, Lieut. C. B. HERRMANN, Chicago.

To Camp Bowie, Texas, from Camp Custer, Lieut. G. B. MATHISEN, Chicago; from Camp Jackson, Capt. J. K. POLLOCK, Elgin.

To Camp Sherman, Ohio, base hospital, from Camp Shelby, Capt. F. G. MORRILL, Havana.

To Cape May, N. J., from San Francisco, Capt. W. H. GALLAND, Chicago.

To Fort Des Moines, Iowa, from Camp Gordon, Lieut. J. R. SHOLL, Peoria.

To Fort Sheridan, Ill., from Camp Dix, Major C. R. FORRESTER, Chicago.

To Fort Snelling, Minn., from Camp Dix, Capt. H. J. WYCKOFF, Chicago.

To report to the commanding general, Central Department, from Camp Grant, Major W. D. BOER, Chicago.

To St. Louis, Mo., from Camp Grant, Lieut. E. L. DALLWIG, Chicago.

The following order has been revoked: *To Detroit, Mich.,* from Camp Custer, Capt. J. W. CLARK, Chicago.

Indiana

To Camp Bowie, Texas, from Camp Custer, Capt. C. A. UNDERWOOD, Indianapolis.

To Detroit, Mich., from Camp Zachary Taylor, Capt. L. H. REDMAN, Elizabethtown.

To Jefferson Barracks, Mo., from St. Louis, Major G. W. NEWELL, Peru.

To report to the commanding general, Central Department, from Camp Dix, Capt. H. W. NIMAL, Indianapolis.

Iowa

To Camp Bowie, Texas, to examine the command for cardiovascular disease, from Camp Jackson, Lieut. A. C. DAVIS, Iowa City.

To Colonia, N. J., from Fox Hills, Capt. E. J. LAMBERT, Ottumwa.

To Fort Clark, Texas, from Fort Benjamin Harrison, Lieut. C. KAIL, Stratford.

To Hampton, Va., from Fort Des Moines, Major L. D. CRUICE.

To report to the commanding general, Central Department, from Camp Dix, Lieut. J. K. GUTHRIE, Rockwell.

Kansas

To Walter Reed General Hospital, D. C., from Fort Riley, Capt. M. R. JOHNSTON.

Kentucky

To Camp Shelby, Miss., base hospital, from Fort Snelling, Lieut. D. B. ROACH, Cadiz.

To Camp Zachary Taylor, Ky., from Camp Dix, Capts. A. L. SOLOMON, Hodgenville; E. L. HENDERSON, Louisville.

To Fort Benjamin Harrison, from Camp Abraham Eustis, Capt. E. MOORMAN, Harned.

To Washington, D. C., Surgeon-General's Office, from Camp Meade, Major C. E. CLAYTON, Dexter.

Maine

To Plattsburg Barracks, N. Y., from Camp Devens, Capt. W. B. MOULTON, Portland.

To report to the commanding general Hawaiian Department, from Fort Riley, Major R. F. HAYDEN, South Portland. Southern Department, from Scituate, Mass., Lieut. W. E. GOULD, Livermore.

To Washington, D. C., Surgeon-General's Office, from Camp Dix, Major A. U. DESJARDINS, Waterville.

Maryland

To Boston, Mass., from Fort McHenry, Col. W. A. POWELL.

To Washington, D. C., Surgeon-General's Office, from Camp Dix, Lieut. A. W. REIER, Glenarm.

To Whipple Barracks, Ariz., from Fort McHenry, Capt. M. B. LEVIN, Baltimore.

Massachusetts

To Camp Bowie, Texas, from Army Medical School, Lieut. E. J. FITZGIBBON, Boston.

To Camp Shelby, Miss., base hospital, from Camp Devens, Capt. J. A. LYON, Rutland.

To Camp Sherman, Ohio, base hospital, from Camp Jackson, Lieut. J. L. DOWLING, Boston.

To Plattsburg Barracks, N. Y., from Fort Des Moines, Lieut. F. L. FORAN, Worcester; from Lakewood, Lieut. R. C. JONES, Fitchburg.

To report to the commanding general, American Expeditionary Forces, from Boston, Col. J. T. CLARKE. Eastern Department, from Camp Dix, Major E. A. KNOWLES, Medford; Capt. J. F. BOWEN, Amherst. Northeastern Department, from Camp Devens, Lieut. T. W. ELY, Boston; from Camp Dix, Lieut. S. B. ANNIS, Natick.

Michigan

To Camp Bowie, Texas, from Camp Travis, Lieut. L. M. BUSH, Detroit.

To Camp Custer, from Camp Dix, Major R. G. LELAND, Kalamazoo, from Camp Dodge, Major W. N. SALISBURY, Ann Arbor.

To Carlisle, Pa., from Camp Custer, Capt. C. A. BERGE, Ann Arbor.

To Hoboken, N. J., from Camp Custer, Major A. E. LEMON, Detroit.

To Plattsburg Barracks, N. Y., from Fort Des Moines, Lieut. G. H. CAMPAU, Detroit.

Minnesota

To Camp Dodge, Iowa, from Camp Dix, Capt. S. B. MAXEINER, Minneapolis.

To Fort Snelling, Minn., from Camp Dix, Capt. I. F. SELLESETH, Glenwood.

Mississippi

To Camp Pike, Ark., from Camp Dix, Capt. J. C. ARMSTRONG, Water Valley.

To Colonia, N. J., from Fort Oglethorpe, Capt. J. T. HOSEY, Enterprise.

Missouri

To Camp Grant, Ill., base hospital, from Camp Dix, Major D. E. SINGLETON, Clarence.

To Fort Riley, base hospital, from Camp Dix, Major L. H. WINEMILLER, Farley.

Montana

To Fort McHenry, Md., from Baltimore, Lieut J. R. McDOWELL, Intake.

To San Francisco, Calif., Letterman General Hospital, from Camp Kearney, Capt. A. A. HUSSER, Hingham.

Nebraska

To Camp Meade, M.D., from Fort Crockett, Capt. J. M. WOODARD, Aurora.

New Hampshire

To report to the commanding general, Northeastern Department, from Boston, Major J. A. DREW, Rumney.

To Spartanburg, S. C., from Denver, Capt. J. C. THOMPSON, North Stratford.

New Jersey

To Camp Dix, N. J., base hospital, from Hoboken, Capt. J. B. WINTERSTEEN, Moorestown.

To Colonia, N. J., from Lakewood, Lieut. J. J. BURNE, Newark.

To Fort Monroe, Va., from Lakewood, Col. C. F. MASON.

To report to the commanding general, American Expeditionary Forces, from Lakewood, Major C. H. GODDARD.

To San Francisco, Calif., from Hoboken, Col. G. L. EDIE.

To Walter Reed General Hospital, D. C., from Camp Dix, Cols. A. S. BOWEN, R. E. GOLDTHWAITE, R. REYNOLDS, G. V. RUKKE, Majors P. E. McNABB, H. E. WEBB, Capt. E. B. SPAETH; from Hoboken, Col. R. M. THORNBURGH.

To Washington, D. C., Surgeon-General's Office, from Camp Dix, Col. E. A. DEAN.

New Mexico

To Whipple Barracks, Ariz., from Camp Kearney, Major H. B. KAUFFMANN, Albuquerque.

New York

To Camp Bowie, Texas, from Camp Shelby, Lieut. E. E. VAN DERWERKER, New York; from Camp Travis, Lieut. E. CALVELLI, New York.

To Camp Dix, N. J., to examine the command for cardiovascular disease, from Camp Meade, Lieut. D. SCHULTHEIS, New York.

To Camp Dodge, Iowa, from Fort Des Moines, Lieut. L. HAUSMAN, New York.

To Carlisle, Pa., from Detroit, Capt. H. A. GRIFFIN, New York.

To Fort Hamilton, N. Y., from Fort Schuyler, Major S. S. PIPER, Elmira.

To Fort Porter, N. Y., from Plattsburg Barracks, Capt. G. C. FISK, Buffalo.

To Fort Riley, base hospital, from Camp Dodge, Major H. A. DURHAM, New York.

To Fort Schuyler, N. Y., from Camp Dix, Major D. B. BRINSMADE, New York.

To Hampton, Va., from Camp Dix, Capt. E. N. BOUDREAU, Auburn; from Fort Oglethorpe, Capt. J. J. HARRINGTON, New York.

To Hoboken, N. J., from Camp Dix, Lieut. J. F. X. LOORAM, Brooklyn.

To Otisville, N. Y., from Oteen, Lieut. H. J. SEIFF, New York.

To Plattsburg Barracks, N. Y., from Hoboken, Major J. H. CARROLL, New York; from Lakewood, Lieut. B. J. SLATER, Rochester; from Walter Reed General Hospital, Lieut. J. HARKAVY, New York.
To report to the commanding general, Eastern Department, from Fort Sam Houston, Major L. M. SIMONSON, Pelham.
To San Francisco, Calif., Letterman General Hospital, from Camp Dix, Capt. O. E. UTZINGER, Ithaca.
To Spartanburg, S. C., from Camp Jackson, Lieut. C. M. MANN, Petersburg; from Camp Meade, Lieut. M. A. McIVER, New York.
To Washington, D. C., Surgeon-General's Office, from Camp Dix, Major J. R. OLIVER, New York.
The following order has been revoked: *To Spartanburg, S. C.*, from Plattsburg Barracks, Capt. W. A. SHAW.

North Carolina

To report to the commanding general, Southern Department, from Camp Sevier, Lieut. R. S. McGEACHY, Raleigh.
To Spartanburg, S. C., from Camp Devens, Lieut. J. E. COCKE, Asheville.

North Dakota

To Fort Snelling, Minn., from Fort McHenry, Lieut. R. L. GHERING, Larimore.

Ohio

To Camp Bowie, Texas, from Camp Sherman, Lieut. A. A. BRINDLEY, Port Clinton.
To Camp Kearney, Calif., from Toledo, Lieut.-Col. G. H. McLELLAN.
To Fort Sheridan, Ill., from Camp Dix, Capt. J. C. GEORGE, Dayton; from Camp Grant, Lieut. M. H. SHIPLEY, Cleveland.
To Oteen, N. C., from Camp Custer, Capt. H. H. WARD, Cleveland.
To report to the commanding general, Central Department, from Camp Dix, Lieut. J. L. BEACH, Seville.
To Washington, D. C., from Camp Dix, Major N. P. McGAY, Cleveland.

Oklahoma

To Army Medical School for instruction, from Fort Des Moines, Lieut. J. E. HEATLEY, Carmen.
To Fox Hills, N. Y., from Camp Pike, Capt. W. W. WOODY, Tulsa.

Pennsylvania

To Camp Bowie, Texas, from Camp Sherman, Lieut. J. C. FULMER, Williamsport.
To Camp Meade, Md., from Army Medical School, Capt. W. F. BEITSCH, New Brighton.
To Camp Sherman, Ohio, from Camp Dix, Capt. M. S. BOWERS, Braddock.
To Fort Sam Houston, Texas, base hospital, from Camp Sherman, Capt. I. L. OHLMAN, Pittsburgh.
To Fort Totten, N. Y., from Camp Dix, Major N. D. SMITH, Rutledge.
To Fort Washington, Md., from Camp Dix, Capt. R. E. THOMAS, Scranton.
To Philadelphia, Pa., from Surgeon-General's Office, Major W. WALKER, Philadelphia.
To Pittsburgh, Pa., from Camp Dix, Capt. J. H. ALEXANDER, Pittsburgh; from Lakewood, Capt. W. P. HUGHES, Pittsburgh.
To report to the commanding general, Northeastern Department, from Camp Dix, Capts. R. S. K. HANIGAN, East Prospect; C. J. WATSON, Philadelphia; from Fort Oglethorpe, Lieut. W. L. COLEMAN, Easton.

Rhode Island

To Key West Barracks, Fla., from Camp Zachary Taylor, Capt. R. S. WILCOX, Providence.

South Carolina

To Fort Riley, base hospital, from Fort Des Moines, Major G. G. COTTAM, Sioux Falls.
To Spartanburg, S. C., from Camp Jackson, Major E. C. MAJOR, Latta.

Texas

To Camp Bowie, Texas, to examine the command for cardiovascular disease, from Camp Meade, Lieut. E. TOOMIN, Waco.
To Denver, Colo., from Fort Sam Houston, Capt. L. L. HEWLETT, Lockhart.
To Fort Bayard, N. M., from Camp Bowie, Lieut. C. H. BROOKS, Waco.
To Fort Worth, Texas, from Camp Dix, Lieut. F. H. NEWTON, Dallas.
To Fox Hills, N. Y., from Camp Dix, Major C. C. CODY, Jr., Houston.
To report to the commanding general, Southern Department, from Camp Dix, Capt. J. C. McKEAN, Lometa; from Fort Oglethorpe, Lieut. W. N. LIPSCOMB, Crockett.

Virginia

To Camp Meade, Md., from Carlisle, Major P. C. RILEY, Markham.
To Denver, Colo., from Newport News, Col. H. H. JOHNSON.
To Fort Leavenworth, Kan., from Newport News, Col. M. A. W. SHOCKLEY.
To Fort Riley, base hospital, from Camp Dodge, Capt. C. M. EDWARDS, Richmond.
To Plattsburg Barracks, N. Y., from Camp Dix, Capt. S. T. NOLAND, Leesburg; from Camp Meade, Lieut. R. A. MOORE, Phenix.

West Virginia

To Camp Zachary Taylor, Ky., from Camp Dix, Capt. W. B. ROBERTSON, Quincy.

Wisconsin

To Camp Bowie, Texas, from Camp Sherman, Capt. J. W. LOCKHART, Oshkosh; Lieut. E. A. GATTERDAM, Wauwatosa.
To Oteen, N. C., from Biltmore, Capt. A. O. SANDERS, Superior.

Wyoming

To San Francisco, Calif., Letterman General Hospital, from Fort Rosecrans, Capt. O. K. SNYDER, Cheyenne.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Personal.—Charles A. Robinson, formerly attending physician at the California State Reform School for Boys, has been appointed health officer for Madera city and county.

Anesthetists Organize.—May 6, the anesthetists of southern California organized a society to be known as the Southern California Society of Anesthetists, whose objects are primarily scientific, and secondarily the securing of such state legislation as shall debar the "anesthetic technician" from a legitimate medical field. Dr. Frank D. Bullard, Los Angeles, was elected president, and Dr. Eleanor C. Seymour, Los Angeles, secretary-treasurer.

ILLINOIS

Hospital News.—An addition to the Lutheran Hospital, Moline, is to be built this summer at a cost of $65,000. With this addition the institution will have a capacity of 125 beds. ——The city council of Belvidere has appropriated $2,000 toward the new hospital to be erected in that city.

Personal.—Bellenden S. Hutcheson, Mound City, Capt., M. C., U. S. Army, who has been on duty in France and who won the Victoria Cross and British Military Cross, arrived home, June 6.——Dr. John C. Ellis, Decatur, is said to have pleaded guilty to a charge of violation of the Harrison Narcotic Law and to have been fined $300 and costs, June 3.——A suit for damages for $25,000 has been filed against Drs. Robert L. French and William L. Ruggles, Oak Park, by Capt. Harry B. Todd, Oak Park.

Chicago

Illegal Practitioner Arrested.—William James, 2938 South Dearborn Street, was arrested by the Department of Registration and Education of the State of Illinois for practicing medicine without a license. James was found guilty, but on account of his advanced years, he was placed on parole for one year.

Rush Alumni Elect Officers.—At the annual meeting of the Alumni Association of Rush Medical College the following officers were elected: president, Dean D. Lewis, Col., M. C., U. S. Army; secretary, Dr. Charles A. Parker; treasurer, Dr. Elmer L. Kenyon; directors for three years, Drs. George H. Coleman and B. McPherson Linnell.

Establishment of John M. Dodson Lecture.—At the annual meeting of the Alumni Association of Rush Medical College, held in Chicago, June 6, Dr. John M. Dodson was presented with a gold watch as an appreciation of his thirty years of service to the college. The Alumni Association also established the John M. Dodson Lecture to be delivered in connection with the work of the Rush Postgraduate School of Medicine of the University of Chicago. The lecture is to be on medical education, history or on any other subject relative to the advance of medical science. The choice of lecturer and subject is vested in a self-perpetuating committee consisting of Dr. Ludvig Hektoen, chairman, Drs. George H. Coleman, Morris Fishbein, Elmer L. Kenyon and John E. Rhodes. The presentation address and the announcement of the lecture fund were made by Dr. Arthur Dean Bevan.

Hospital News.—Taylor E. Darby, Lieut.-Col., M. C., U. S. Army, in command of U. S. Army General Hospital No. 32, has received orders to vacate the building, June 15, and evacuate the soldiers now quartered there to U. S. Army General Hospital No. 28, Fort Sheridan, Ill.——Plans have been announced for a maternity hospital to be established at Forty-Seventh Street and California Avenue, to be called the Misericordia Hospital, and to cost $100,000.——Plans for the resumption of the preliminary work for the new medical college and hospital buildings for the University of Chicago have again been taken up. The new medical school will be constructed on the property owned by the university on the south side of the midway, and the first building to be erected will be a hospital and dispensary to cost $1,000,000. The school for practitioners will be located near Rush Medical College, and the hospital will be known as the Albert Merritte Billings Hospital. The buildings planned will cost $17,000,000.

INDIANA

Antituberculosis Association Organized.—The League of Tuberculosis Associations of the Thirteenth District of Indiana, affiliated with the state and national organizations, was organized at Plymouth, May 22. Mr. James Wilkinson, Goshen, was elected chairman; Mrs. Ethel M. Cook, Plymouth, secretary, and Mrs. William B. Siders, Warsaw, treasurer.

Personal.—Henry O. Brueggeman, Lieut.-Col., M. C., U. S. Army, Fort Wayne, who since his return from France has been on duty at Fort McHenry, Md., will soon be released from service.——Dr. Lester I. Ofner, superintendent of the Irene Byron Tuberculosis Hospital on the Allen County Farm, Fort Wayne, has resigned on account of ill health.——Dr. Richard B. Wetherill, Lafayette, announces his retirement, June 1, after thirty-six years of practice of medicine in Lafayette.——Dr. George H. Hoskins, Whiting, has been elected president and Dr. H. E. Graham, Gary, secretary, of the Lake County Anti-Tuberculosis Society.——Dr. Hugh T. Montgomery, South Bend, the oldest living charter member of the St. Joseph County Medical Association, was the guest of honor at the thirty-second anniversary meeting of the organization, May 14.

Venereal Clinics.—The city council of Kokomo has appropriated $1,500 for the establishment and maintenance of a free clinic for the treatment of venereal diseases, and it said that the city council has also enacted an ordinance requiring physicians to report for quarantine or treatment all cases submitted to them.——The city council of Madison has made an appropriation for the beginning of the work against venereal disease in that city.——A free venereal clinic was opened, May 3, at Anderson in charge of Ed C. Davis, Indianapolis.——The Terre Haute Public Health Clinic is in active operation under the charge of Dr. Maurice B. Van Cleave.——A free venereal disease clinic has been organized for Allen County at Fort Wayne in charge of Dr. Gaylard M. Leslie.——A venereal disease clinic for South Bend was opened, June 1, under the charge of M. R. Birmingham, Indianapolis.

IOWA

Personal.—Dr. David O. King, Eldora, has been appointed local surgeon of the Northwestern system.——Dr. George B. Thompson, Winthrop, is reported to be critically ill.——Dr. Walter W. Daut has been elected health physician of Muscatine.——Dr. Sara E. Foulks, Davenport, is now in Serbia with the Balkan mission of the American Red Cross.——Frederick H. Roost, Major, M. C., U. S. Army, Sioux City, has been commissioned lieutenant-colonel, and is now stationed in Luxembourg.——Dr. Charles E. Ruth, Des Moines, who for six months has been commanding officer of the hospital at Fort William McKinley, Manila, P. I., returned home, May 5.

KENTUCKY

State Health Board Moves to Louisville.—The headquarters of the Kentucky State Board of Health, which have been at Bowling Green since 1883, were moved to Louisville, May 1. The new location is in the old Union National Bank Building at Sixth and Main streets.

Sanatorium at Dawson Springs.—Work has been started on the Federal Hospital at Dawson Springs where 5,000 acres in Hopkins and Christian counties have been deeded for this purpose. It is expected that between $12,000,000 and $15,000,000 will eventually be expended on this institution, which will include an administration building, tuberculosis sanatorium, hospital for nervous diseases, general hospital, and building for vocational training.

Personal.—Dr. William E. Gary, head of the milk and food division of the Louisville Health Department, has resigned to accept a position as head of the roentgen-ray and pathologic department of the Jennie Stuart Memorial Hospital, Hopkinsville.——Sidney J. Meyers, Lieut.-Col., M. C., U. S. Army, Louisville, has returned after eight months of service in France, where he was in command of Base Hospital No. 238, Rimancourt.——Dr. Joseph E. Wells, Cynthiana, has been appointed a member of the state board of health.

MARYLAND

Correction.—Capt. Raymond R. Decker, commanding U. S. Army General Hospital No. 7, Roland Park, Baltimore, writes that the Baltimore correspondence appearing in the May 17 issue of THE JOURNAL to the effect that the hospital "recently reverted from military to Red Cross control" is incorrect. The Red Cross will conduct a school for the reeducation of war blinded soldiers, sailors and marines, using the temporary buildings on the military reservation heretofore known as U. S. Army General Hospital No. 7, but will have no control over, or affiliation with, that institution. The blind men will be discharged from military service and will attend the school as civilians, or rather as wards of the Federal Board for Vocational Education, which will have as its representative a supervisor of the blind, stationed at the school. The reservation and all property remains under government control and will be guarded and policed by detachments of soldiers after the demobilization of the hospital is completed.

Personal.—Dr. William H. Welch has returned to Baltimore, after spending several months as one of the representatives of the United States at the international convention of the Red Cross, held at Cannes, France.——After serving as professor of gynecology at the Johns Hopkins Hospital for thirty years, Dr. Howard A. Kelly, Baltimore, has resigned. He will be succeeded by Dr. Thomas S. Cullen, who has been assistant professor of gynecology at the Johns Hopkins Hospital for a number of years. Dr. Kelly gave as his reasons for taking this step that he had held the position long enough and that he would be free to give more attention to his profession along other lines, as well as to his other activities.——Dr. Frank C. Marino, Baltimore, who served with the Medical Corps in France and was in front-line hospitals at Château Thierry, St. Mihiel and Verdun, has been appointed medical superintendent of St. Joseph's Hospital, Baltimore.——Andrew C. Gillis, Lieut.-Col., M. C., U. S. Army, former superintendent of Mercy Hospital, Baltimore, who was in charge of a group of hospitals in the Toul sector, has returned from overseas and is now at his home in Baltimore.——Dr. Arthur Wegefarth, Baltimore, has been confined to his home with a severe attack of tonsillitis, followed by mumps.

MASSACHUSETTS

Harvard Alumni Meeting.—The annual meeting of the Harvard Medical Alumni Association will be held in Harvard Hall, Cambridge, on Commencement Day, June 19, at 12:30 p. m.

Personal.—Dr. Joseph P. Mulhern, Boston, has been appointed resident physician of the Long Island Hospital.——Dr. Clement C. Nevin, Edgartown, has been appointed associate medical examiner (coroner) for Dukes County, succeeding Dr. Orland S. Mayhew, Tisbury.

State Society Elects Officers.—The Massachusetts Medical Society held its one hundred and thirty-eighth annual meeting in Boston, June 3 and 4, under the presidency of Dr. Samuel B. Woodward, Worcester, and the following officers were elected: president, Dr. Alfred Worcester, Waltham; vice president, Dr. Arthur R. Crandell, Taunton; secretary, Dr. Walter L. Burrage, Jamaica Plains (reelected); treasurer, Dr. Arthur K. Stone, Framingham Center; librarian, Dr. Edwin H. Brigham, Brookline, and orator, Dr. Hugh Cabot, Boston.

MICHIGAN

Nurses Memorial Home.—James Couzens, mayor of Detroit, announces that he will present the city with a nurses' home in memory of the Detroit nurses who served during the world war. The building will be six stories in height, 114 by 147 feet, and will cost $300,000.

Health Officers Organize.—The Michigan chapter of the American Public Health Association was organized at the annual convention of the Michigan State Medical Society, and the following officers were elected: chairman, Dr. Richard M. Olin, Lansing, state health commissioner; secretary-treasurer, Dr. Victor C. Vaughan, Ann Arbor. A board of directors was appointed by Dr. Richard M. Olin, state health commissioner and chairman of the board, as follows: Drs. Guy L. Kiefer, Detroit; William De Kleine, Flint; Neagle, Jackson; Clyde C. Slemons, Grand Rapids; Alvin H. Rockwell, Kalamazoo; Charles P. Drury, Marquette; Joseph J. Gerkins, Ironwood; Charles A. Neafie, Pontiac; Eugene Miller, Battle Creek; William G. Wright, Lansing; Arthur F. Fischer, Hancock, and George A. Holliday, Traverse City; Mrs. Lystra E. Gretter and Paul Rachel, Detroit; Profs. W. C. Hoad and Warren E. Forsythe, Ann Arbor; Mr. Shoecraft, city engineer of Flint, and W. S. Spery, Grand Rapids.

MISSOURI

Personal.—Dr. Thomas B. M. Craig, Nevada, has been appointed superintendent of the State Hospital No. 3,

Nevada, succeeding Dr. William P. Bradley, resigned.—Dr. Joseph R. Hamer, Cameron, has been oppointed coroner for Clinton County.

State Association Meeting.—The Missouri State Medical Association held its sixty-second annual meeting at Excelsior Springs, May 26 to 28, with an attendance of 434. The following officers were elected: president, Dr. Nimrod P. Wood, Independence; vice presidents, Drs. John J. Gaines, Excelsior Springs; Edwin F. Yancey, Sedalia; William A. Clark, Jefferson City; Arthur M. Gregg, Joplin, and J. Curtis Lyter, St. Louis; secretary, Edward J. Goodwin, St. Louis (reelected); treasurer, J. Franklin Welch, Salisbury; and councilors: fifteenth district, Linn J. Schofield, Warrensburg; twenty-second district, Henry L. Reid, Charleston; twenty-sixth district, William H. Breuer, St. James; twenty-seventh district, James C. B. Davis, Willow Springs; twenty-eighth district, Arthur L. Anderson, Springfield, and twenty-ninth district, Robert L. Wills, Neosho. The next meeting will be held at Jefferson City.

NEBRASKA

Personal.—Dr. Moth has been elected city physician of Omaha, succeeding Dr. Harry D. Kelly, resigned.—Alvah Sherman Pinto, Major, M. C., U. S. Army, Omaha, commanding Base Hospital No. 48, Recey, France, has been made lieutenant-colonel, Medical Corps.

Medical School Now Registered.—A letter from the dean of the University of Nebraska College of Medicine states that that college was admitted to the list of registered institutions by the board of regents of the University of the State of New York at a meeting, held May 29.

Physicians' Building in Omaha.—The Medical Building Association has been incorported in Omaha with a capital of $1,500,000 with the object of building and operating a twenty-story building at Seventeenth and Dodge streets, Omaha. The officers of the association are: Dr. William P. Wherry, president; Dr. W. H. Sherraden, vice president; Dr. Ernest W. Powell, secretary, and Mr. Leonard W. Scheibel, treasurer.

NEW YORK

Personal.—Dr. Frederick D. Keppel, third assistant secretary of war and former dean of Columbia University, will become director of the foreign operations of the American Red Cross, July 1.

New York City

Columbia University.—At the commencement of Columbia University, June 5, the degree of Doctor of Medicine was conferred on 138 graduates. The biennial Cartwright prize of the School of Medicine, of $500, was awarded to Dr. Abraham Leon Garbat of New York City.

Alumni Elect Officers.—At the annual meeting of the Society of the Alumni of City (Charity) Hospital, held May 21, the following officers were elected: president, Dr. Charles Ogilvy; vice president, Dr. Walter Seymour Reynolds; secretary, Dr. Wm. M. Patterson, and treasurer, Dr. Perry Bartlette Hough, all of New York City.

Memorial Hospitals to Be Established.—In memory of 120 men from the fourth ward of Brooklyn, who lost their lives in the war, a campaign is being planned to raise a fund of $500,000 to be equally divided between the Jamaica Hospital and St. Mary's Hospital to be used for the erection of much needed additions to these institutions. The extension is to be decorated as a memorial to the soldiers of the fourth ward.

Personal.—Dr. Alexandra Acha, Peruvian delegate to the American Medical Association, and Dr. Cary Eggleston of New York, while on their way to West Point, a trip which was a part of the entertainment of foreign delegates to the meeting of the American Medical Association, were the victims of an automobile accident. They were taken to the hospital at Tuxedo. Fortunately neither of them sustained serious injuries.

Plan to Make Brooklyn Medical Center.—A number of the leading physicians of Brooklyn met at the Hamilton Club, June 2, to discuss the possibilities of developing Brooklyn's resources as a teaching center. The meeting was presided over by Dr. Glentworth R. Butler. Others interested in the project are Drs. H. Beeckman Delatour, Brooklyn, John A. Lee, Otto V. Huffman, Lewis S. Pilcher, Joshua M. Van Cott, Edwin H. Fiske, William Browning, William B. Brinsmade and Jacob Fuhs.

Columbia University Plans New System of Physical Education.—Under the direction of Dean Herbert E. Hawkes, Dr. W. H. Castline, and Dr. George L. Meylan a new system of physical education for the development of the health and physical condition of college students has been perfected and will be begun at the opening of the fall term. Medical surveillance will be extended to the student from the day he enters college until he receives his diploma. When physical defects appear they will be corrected, with the purpose of turning out 100 per cent. men physically as well as mentally. Plans have also been made for caring for students who show conditions of malnutrition, underweight, etc. The university restaurant has been placed under the direction of Prof. Charles T. MacFarline and students will be supplied with good food properly balanced and special diets will be furnished. In order to carry out these plans the university plans to maintain on the campus a staff of physicians and nurses.

PENNSYLVANIA

Personal.—Dr. James F. Edwards, for many years director of the department of health at Pittsburgh, has been appointed health commissioner of Omaha.—Dr. Andrew R. Cancelliere, Pittsburgh, who suffered a fracture of the skull in an automobile accident, May 18, is reported to be improving.—Dr. Walter A. Dearth, Pittsburgh, has been elected a member of the Allegheny County Prison Board.

Dixon Memorial.—A bronze tablet, in memory of the late Dr. Samuel G. Dixon, state commissioner of health from the creation of the department of health until his death last year, was unveiled at the State Tuberculosis Sanitarium at Hamburg, Berks County, June 6. The tablet was presented by the patients at the institution as a memorial to the official who took such an interest in their welfare and was affixed to a large boulder in the ground.

Philadelphia

Medical Society Reception.—The Medical Club of Philadelphia held its last reception of the season at the Bellevue-Stratford Hotel, June 18. The Honorable Robert L. Owen, United States senator from Oklahoma, and the foreign delegates of the American Medical Association were the guests of honor.

Babies' Hospital.—The building for the Babies' Hospital of Philadelphia, which was planned previous to the war, will now be built as planned at the Northeast Corner of Seventh and Delancey Streets and will cost $110,000. The building will be on a lot 40 x 81 feet, and will be six stories in height and of colonial type.

Commencement at Jefferson.—At the ninety-fourth annual commencement exercises at Jefferson Medical College, June 7, a class of 142 was graduated. The degree of doctor of laws was conferred on Major-Gen. Merritte W. Ireland, Surgeon-General, U. S. Army, and Vice-Admiral Grieve. General Ireland, in his address, lauded the company of soldiers who submitted themselves as volunteers for experiments with disease-bearing lice to determine the cause of trench fever.

Personal.—Lieut.-Col. Clarence P. Franklin, M. C., U. S. Army, was the guest of honor at a banquet at the Hotel Walton, given June 5, by prominent members of the Italian Colony of this city.—Daniel M. Hoyt, Lieut.-Col., M. C., U. S. Army, commander of Base Hospital No. 55, has returned to Camp Merritt, N. J., where he is awaiting demobilization.—At the annual meeting of the Philadelphia Laryngological Society, June 3, Dr. J. Solis-Cohen was elected honorary president for the term of his life.

SOUTH DAKOTA

New State Officers.—At the thirty-eighth annual meeting of the South Dakota State Medical Association held in Watertown, May 20 to 22, under the presidency of Dr. Daniel L. Scanlan, Volga, Sioux Falls was selected as the place of meeting for 1920 and the following officers were elected: president, Dr. Robert D. Alway, Aberdeen; vice presidents, Drs. Harry T. Kenney, Pierre, and George S. Adams, Yankton, and secretary-treasurer, Dr. Frederick A. Spafford, Flandreau.

VERMONT

Board of Health in New Quarters.—The state board of health has moved to its new home at 2 Colchester Avenue. The building contains twenty-two rooms and has special quarters for officers of the board and state laboratory.

Personal.—Dr. Edgar O. Crossman, medical superintendent of the Lakeview Sanatorium, Burlington, has opened an office in Manchester, N. H.—Dr. Charlotte Fairbanks,

St. Johnsbury, has been made a "Citizen of France." and has received from the mayor of Luzancy a gold medal in appreciation of her services as surgeon in the medical unit of the American Women's Hospital in France.

WEST VIRGINIA

State Society Meeting.—At the fifty-second annual meeting of the West Virginia State Medical Association held in Clarksburg, May 20 to 22, under the presidency of Dr. Robert J. Reed, Wheeling, Parkersburg was selected as the next place of meeting, and the following officers were elected: president, Dr. Henry R. Johnson, Fairmont; vice presidents, Drs. Benjamin F. Shuttleworth, Clarksburg, Walter E. Vest, Huntington, and Joseph L. Miller, Thomas; secretary, Dr. J. Howard Anderson, Marytown (reelected); treasurer, Dr. Hugh G. Nicholson, Charleston (reelected); delegate to the American Medical Association, Dr. Henri P. Linsz, Wheeling, and alternate, Dr. John E. Cannaday, Charleston.

WISCONSIN

Morphin Addict Robs Physician's Offices.—We are informed by Dr. Oscar N. Mortensen of Grand Rapids, that, June 4, a morphin habitué broke into his office and took some Liberty Bonds. He had called at the office and asked for drugs. The man is described as a typical drug addict—sallow, with several large sores on the face, dark hair, about 30 years old and about 5 feet, 10 inches tall.

New Hospitals.—A third Catholic hospital is to be established in Superior by the Sisters of St. Joseph who have acquired as a site the William Patterson Home on Bay Street. ——The new medical buildings on the campus of the University of Wisconsin, Madison, are to be known as the Bradley Memorial Hospital and University Infirmary. They will be ready for occupancy by July 1.——A central city dispensary is to be established at De Pere in the Parmentier Building.

CANADA

Personal.—Lieut.-Col. F. McKelvey Bell, Ottawa, Ont., director of medical services for the Canadian Department of Soldiers' Civil Reestablishment, has resigned. He states in his letter of resignation that the medical branch of this department has been made secondary in importance to almost every other branch in the organization, and that many important recommendations he made have never been acceded to. Lieutenant-Colonel Bell was in charge of the medical services at Halifax at the time disaster overwhelmed that city. ——Dr. Edwin G. Hodgson, Toronto, has returned from overseas.——Prof. Alexander McPhedran, Toronto, and Principal Hibben of Princeton University, were given the honorary degree of doctor of laws at the recent convocation of the University of Toronto. Among others who received honorary degrees were: Robert Russell Bensley, Chicago (doctor of science), and Frank Rattray Lille of the University of Chicago.

University News.—Announcement has been made of the following bequests to the University of Toronto: $50,000 by the will of the late Dr. Julius Mickle, London, England, a former graduate of the university. This amount to be divided into two fellowships, one in honor of the father of the donor and the other to honor the mother. The former is to consist of the proceeds of $25,000 and is to be awarded to the person who, during the preceding ten years, had done most to promote the sound practice of medicine, and this will be open to all the world. The other fellowship will be awarded to the student of the University of Toronto who passes highest in his or her third and fourth years.——An unnamed donor has given the University of Toronto $10,000 through Mrs. McCrae Kilgour, Brandon, Man., to perpetuate the memory of her brother, the late Col. John McCrae, who was an alumnus of the university. This will be used for two scholarships to be given alternate years to students from Guelph Collegiate Institute; failing one, then from any other institute in Canada.——The residue of the estate of the late Dr. Richard A. Reeve, Toronto, goes to the University of Toronto, but the amount is not definitely known as yet.—— The president of the University of Toronto has asked all members of the clinical medical department to place their resignations in the hands of the newly appointed professor of medicine, Dr. Duncan A. L. Graham. It is understood there are to be a number of changes. Dr. Graham will strive to bring about the more intimate correlation of laboratory and clinical methods for diagnosis and treatment of disease. It is likely that each ward of the general hospital will have a small laboratory in charge of a pathologist.

LATIN AMERICA

Deaths in the Profession.—Dr. **Miguel Ochoa** of Buenos Aires, where he had a private medical clinic in addition to his work in the public hospitals.——Dr. **Romualdo Ibañez,** formerly of the editorial staff of the *Crónica Médica* of Lima, Peru.

Inauguration of Radium Institute at Rio de Janeiro.—The Instituto de Radiologia da Faculdade de Medicina was recently inaugurated with much ceremony, Prof. Aloysio de Castro presiding. The radium treatment department is in charge of Profs. F. Terra and E. Rabello, while the roentgen department continues in charge of the chiefs for many years, of roentgen work, Drs. R. Duque Estrada and A. Machado. There are provisions for free and paying patients, and arrangements can be made also for radium treatment in the home.

Public Health Training in Brazil.—Following the report of a special commission sent to Brazil in 1916 to study medical conditions, the Rockefeller Foundation International Health Board entered into an arrangement with the Faculdade de Medicina e Cirurgia at São Paulo for the establishment of a department of hygiene in that institution. The new department—the first of its kind in Brazil—is to be maintained jointly by the medical school and the board for a period of five years, with the understanding that, if at the end of that time it has justified itself, the government will assume its support.

Improved Public Health Service in Brazil.—The agitation for measures to reduce the spread of various diseases throughout Brazil has resulted in the formulation of a set of regulations which are published in the *Brazil-Medico* of April 12. The diseases principally in view are hookworm, malaria and Chagas' disease or Brazilian trypanosomiasis. The service for leprosy is to be separate from the others. The plan outlined is most excellent, but our exchange says it is like a fine body without any head, as the whole functioning of the service is in the hands of the Ministerio da Justicae Negocios Interiores which is already overburdened with its specific duties. The plan provides for cooperation between the national and the state and local service, which share the expense in specified proportions.

Brazilian Neurologists Elect Officers.—At its meeting, March 27, the Brazilian Society of Neurology and Psychiatry elected the following officers: president, Prof. Dr. Juliano Moreira; vice president, Prof. Dr. Aloysio de Castro; general secretary, Dr. Mario Pinheiro; first secretary, Dr. W. de Almeida; second secretaries, Drs. H. Carrilho, Teixeira Mendes, Ant. Costa; treasurer, Dr. U. Vianna; commission on neurology, Profs. Miguel Couto, A. Austregesilo, Oswaldo de Oliveira, Miguel Osorio, Fernandes Figueira and Ernani Lopes; commision on psychiatry, Profs. H. Roxo and Franco da Rocha, and Drs. Rodrigues Caldas, G. Riedel, W. Schiller and P. Pernambuco; commission on legal medicine, Profs. Nascimento Silva, A. Peixoto, Tanner de Abreu, Oscar Freire and Diogenes Sampaio, and Dr. M. Barbosa.

Resignation of Centeno.—Under the heading "Lamentable News," the *Archivos Españoles de Pediatría* publishes a notice that Professor Centeno has resigned the chair of pediatrics at the University of Buenos Aires. The resignation is based on purely personal reasons, it is said. Under another heading it mentions that seven physicians are now competing for the post, including such well known names as Araoz Alfaro, Elizalde, Sixto, Acuña, Navarro and Santas. On account of the retirement of Dr. Centeno from the charge of the children's ward at the Hospital de Clinicas at Buenos Aires, his pupils are planning a testimonial to him to take the form of a handsomely bound collection of the scientific works of all his pupils and collaborators. The collection will form fourteen volumes of 800 pages each, and contain many important works such as Elizalde's monograph on splenomegaly in children; on tumors in the kidneys, by Lugones; on the treatment of gallstone disturbances, by Jorge, Jr.; F. Schweizer's contributions on infant feeding and nutrition, and Navarro's important work on glandular disease in children. The *Semana Médica* comments on this testimonial to Professor Centeno: "'By their fruits ye shall know them.' The gift of this collection will enable Dr. Centeno to realize at a glance the magnitude of his work in the chair of pediatrics. Would that other professors could have as rich a collection of important works to show, and such a pleiad of stars to surround them."

GENERAL

National Board Examination.—The examination held by the National Board of Medical Examiners at Philadelphia, June 2 to 7, had fifty-two candidates, the largest number in the history of that board.

The Campaign Against Tuberculosis.—The U. S. Public Health Service has published a leaflet, one of its "Keep Well Series," entitled "How to Avoid Tuberculosis." It gives the symptoms briefly and simply, and outlines the proper method of living, which, if followed, would not only go far to prevent tuberculosis but many other human ailments.

Antivivisection Legislation Proposed.—Senator Myers of Montana would prohibit experiments on living dogs in a bill just introduced in the Senate. The bill makes it a misdemeanor to experiment or operate in any manner on a dog for any purpose other than to cure or heal it. The law, because of constitutional limitations, would apply only to the District of Columbia, territories and insular possessions. It was referred to the committe of the judiciary.

Bill to Reinstate Officers of Public Health Service.—All physicians who left the Public Health Service to enter the army or navy for the period of the war must be reinstated on application, under the terms of a bill by Senator Jones of Washington. The bill also provides that they be given the same seniority in rank to which they would have been entitled had they not resigned. The bill was referred to the Senate Committee on Public Health and Quarantine of which Senator France of Maryland is chairman.

Amendment to Food and Drug Act Urged.—Congressman Burton L. French of Idaho would amend the pure food and drug act in the misbranding of drugs. He has introduced an amendment to the pure food and drug act providing that every package sent in interstate commerce containing a virulent poison shall be placed in a container bearing the word "poison" printed in red on white, or in white on red, and giving at least one suitable antidote. In the case of liquid poisons, the use of a colored glass roughened bottle is made mandatory.

Legislation Against Venereal Treatment Advertisements.—The transmission through the mails of advertisements relating to the treatment of venereal diseases and sexual disorders is prohibited by a measure introduced by Senator Townsend of Michigan. The publication of all matter relating to sexual cures is made nonmailable matter, except in instances of didactic or scientific treatises which do not call attention to any person from whom treatment or advice may be obtained. The publications of the Public Health Service are also excepted. Violation is to be punished by a fine of $5,000 or five years imprisonment, or both. The bill was referred to the Senate Committee on Postoffices.

Bequests and Donations.—The following bequests and donations have recently been announced:

University of Toronto, Ont., a gift of $25,000 a year for 25 years to provide for a full-time clinician in the department of medicine and a half-time physician in pediatrics by Sir John and Lady Eaton.

Washington University School of Medicine, a donation of $150,000 by the general education board on condition that an equal amount be raised by subscription, this fund to be used for the endowment of a department of pharmacology.

St. Joseph's Hospital, Philadelphia, $1,000 by the will of Marcella Ennis.

Pennsylvania Hospital, Philadelphia, $10,000 by the will of Robert Ralston Stewart.

For a hospital in DeKalb, Ill., $22,000 by the will of Joseph F. Blidden, DeKalb.

Jewish Charities, Chicago, and Michael Reese Hospital each $18,500 by the will of Gustave Freund.

Annual Conference of Health Officers.—The seventeenth annual conference of State and Territorial Health Authorities with the Public Health Service was held at Washington, D. C., June 4 and 5. Surg.-Gen. Rupert Blue presided. The subjects which were taken up at the conference were malaria, child hygiene, problems in interstate health work, control of venereal diseases, public health education, Sanitary Reserve Corps, railroad sanitation, and statistics relating to the 1920 census. Dr. William H. Welch, Baltimore, who represented the Public Health Service at the recent conference of Red Cross societies held at Cannes, France, made a report on the organization of a league of Red Cross societies, for the purpose of promoting public health throughout the world.

One of the most important questions taken up by the conference was that of malaria, most of the discussion dealing with the work accomplished by the Public Health Service, in connection with the sanitation of extracantonment zones.

Asst. Surg.-Gen. Taliaferro Clark, Washington, D. C., discussed the necessity for a nationwide program of child hygiene to be carried on through cooperation between the federal and state governments. Special stress was laid on the importance of having child hygiene work conducted through the present health organizations of the different states.

The Public Health Service made a report of a rapid survey made of federal water supplies in relation to interstate traffic throughout the country in the last few weeks. The Public Health Service also announced a program for assisting state health departments by detailing to each an officer of the service who will assist in epidemiologic and other public health work at the request of the state and health authorities.

In the discussion on public health education, a program was placed before the conference, whereby the Public Health Service will furnish speakers, publications, films and other educational material, provided the states shared in the expenses involved. No final action was taken on the matter, but a committee was appointed to discuss it further, with a similar committee to be appointed by the Conference of the State and Provincial Boards of Health.

The program of cooperation between the Public Health Service and the state health authorities in the control of similar diseases was explained by Assistant Surg.-Gen. Claude C. Pierce. A large number of representatives of the venereal disease control work in the different states were present at the conference, and held a meeting taking up the problems relating to this work . A resolution was adopted by the conference endorsing the bill, known as the rural health act, which would extend the principles of federal aid in rural health work. The text of the resolution follows:

Resolved, That it is the sense of the Conference of the United States Public Health Service with the state and territorial health authorities, meeting in Washington, June 4 and 5, 1919, that on account of the greatly accentuated popular interest in public health work, incident to the examination and findings by Draft Boards, of widespread physical impairment among millions of apparently healthy registrants, and because of the present pronounced restlessness of rural local governments for breaking away from their former attitude of indifference to adequate measures of human conservation and in undertaking with or without the guidance of experienced health agencies, hastily prepared and varied programs of rural health work, that the present moment is of all times the most opportune and crucial for Federal and State Health Authorities to take steps for assisting local rural governments in the development of an economic, efficient and permanent system of rural health work and,

Be it further resolved, That it is the sense of this Conference that the best means for insuring the future of rural health work is the Federal Aid Extension Principle of Government (the wisdom and practicability of which has been demonstrated and established in providing for other rural needs, as in the matter of post roads, vocational education and farm life demonstration work), as represented in H.R.—2845 recently introduced in the present Congress and entitled "The Rural Health Act."

FOREIGN

Landouzy Memorial.—A committee has been formed at Paris to honor the memory of Professor Landouzy by founding at the Faculté de Médecine a museum to be called by his name. A medal is to be struck off to be given to each subscriber. The treasurer of the fund is M. P. Masson, 120 boulevard Saint-Germain, Paris.

Prize Offered by Spanish Gynecologic Association.—The *Archivos Españoles de Pediatría* states that the Sociedad Ginecologico Española has offered a prize of 500 pesos for the best article dealing with endocrinology in relation to infantile pathology, sent in to the secretary before Oct. 31, 1919. Address Mayor 1, Colegio de Médicos, Madrid.

Endowment of Motherhood.—The family endowment committee has laid before the national birth rate commission in London a proposition that the state provide a regular weekly income for families with children under 15 years of age. It is intended that the effect of this endowment will be to induce earlier marriages and will tend to remove the economic restriction of birth rate. The cost to the government will be about $1,200,000,000 a year.

Neutral Doctors Study Nutrition in Germany.—A dispatch from Consul Schmedeman, at Christiania, states that in response to a request received from a number of German and Austrian universities to appoint representatives on a commission of neutral doctors whose task should be to study the present state of nutrition in Germany and Austria, Professor Brandt of the medical faculty has gone to Germany. Sweden, Denmark, Holland, Switzerland and Spain will be represented on the commission. Possibly an American physician will also be asked to join it. The Swedish representatives are Professors Johansson and Gadelius.

Deaths in the Profession Abroad.—Dr. **E. A. Tscherning,** chief of the surgical department of the Kommunehospital at Copenhagen, one of the founders of the Danish and the Nordisk Surgical Associations in which he has served as president, as also in the Copenhagen Medical Society, aged 68.——**P. J. Ménard** of Paris, one of the younger set of physicians.——Dr. **Martin Vallejo Lobón,** professor of medical pathology and also of clinical medicine in the Barcelona medical faculty, and author of numerous works on clinical medicine, etc.——Dr. **A. Schwob,** physician to the French consulate of France at Geneva, Switzerland, for thirty-five years, aged 85.

Royal Army Medical Corps War Memorial.—A memorial is to be erected to the officers and men of all branches of the R. A. M. C. who fell in the war. These number 560 officers and 4,091 men of other ranks. A committee representative of all branches of the corps has been formed. Lieut.-Gen. Sir Alfred Keogh is chairman and Lieut.-Gen. Sir John Goodwin is vice chairman of the committee. The Duke of Connaught is honorary chairman. It is the plan of the committee to erect a permanent memorial or monument in London, with, if possible, replicas in Edinburgh and in Dublin; to create a fund from which grants in aid may be given to the families of members of every rank and branch of the service who have fallen or been disabled in the war or who may be in necessitous circumstances owing to the exigencies of military service; to establish scholarships or memorial prizes for research work. Suscriptions are invited and may be sent to Messrs. Holt and Co., 3 Whitehall Place, London, S. W., and should be described as for "The R. A. M. C. War Memorial Fund."

PARIS LETTER

PARIS, May 29, 1919.

Tuberculosis a Reportable Disease

The Académie de médecine adopted the following resolution presented by Dr. Vaillard: 1. All cases of open tuberculosis must be reported as soon as the diagnosis is established. 2. The report will be made to an official of the health department, who will be bound to professional secrecy and who will attend to the institution of the necessary prophylactic measures when the attending physician cannot give assurances that these will be carried out. 3. The authorities will provide for needy patients the care necessary to restore them to health and will also give assistance to their families, if required.

The Académie also adopted unanimously the emendations offered by Dr. P. Reynier and by Professor Hayem which comprise the following points: a campaign against alcoholism, including the limitation of the sale of intoxicating drinks; elimination of insanitary homes; better living conditions for the laboring class in the large centers of population; development of the Grancher work; compulsory disinfection of homes, thus giving positive assurance against spread of the disease; establishment of dispensaries, sanatoriums, special hospitals, farm colonies; extension to the other departments of France of the infant welfare work already established in the department of the Seine; introduction of sanitary regulations with reference to abattoirs and stables; the building of good, reasonably priced homes for the working class; prophylactic measures against syphilis.

Inspection of the Surgical Service of the Army

An inspection department of the various surgical services of the army has been created as part of the Service de Santé militaire and will be in charge of an inspector-general. Dr. Sieur, president of the consulting staff of the Service de Santé, has been assigned to this work.

Institute of Child Welfare

The American Red Cross and the Children's Welfare League of the United States have together appropriated 1,500,000 francs for the establishment of an Institute of Child Welfare, on the condition that 1,000,000 francs shall be collected in France for this work. The office of the institute will be located in the buildings of the Paris medical faculty. A committee has been appointed to take charge of the collection of funds in France, and about 500,000 francs has already been subscribed. The secretary of the committee is Dr. B. Weil-Hallé.

Help for Nursing Mothers

The society founded in aid of nursing mothers (Allaitement maternel et des refuges-ouvroirs) recently met in general session under the presidency of Dr. Louis Mourier, under-secretary of state for the Service de Santé militaire, assisted by Mr. P. Strauss, senator from the department of the Seine, and Mr. Mesureur, director of public charities. Dr. Mourier commended highly the coordination of all the various agencies engaged in child welfare. Mr. Abel Combarieu stated that many large problems would soon be attacked for which Baroness Leonino had recently donated a fund of 200,000 francs.

Honors for the Personnel of the American Hospitals

Several officers and nurses of the Field Ambulance at Ferrières-en-Gatinais have received evidences of official recognition at the hands of Dr. Louis Mourier, of the Service de Santé militaire, for services rendered at the front and in the Paris military district, especially during the air raids.

Personal

The council of the Paris medical faculty has appointed Dr. Balthazard professor of legal medicine. Dr. Balthazard is a medicolegal expert and has officiated in a number of sensational cases. Dr. Leon Bernard was appointed professor of hygiene, succeeding the late Professor Chantemesse. Dr. Abadie of Bordeaux was appointed clinical professor of mental diseases, and Dr. Dubreuilh, also of Bordeaux, was made professor of general anatomy and histology in the Bordeaux school. Dr. Spillmann of Nancy was appointed clinical professor of dermatology and syphilis on the Nancy medical faculty.

Dr. Bellencontre has been elected president of the Association générale des médecins de France, succeeding the late Professor Gaucher.

LONDON LETTER

LONDON, May 21, 1919.

An American Hospital for London

The idea of an Anglo-American entente has been taken up not only among the public but in the medical profession with a good deal of enthusiasm. Its latest manifestation is a movement to establish an American hospital in London. The headquarters are to consist of a hospital, a library, lecture theaters, demonstration rooms, reading rooms, and so forth. American physicians will thus possess a rallying point when visiting London. It is understood that Lord Reading has accepted the presidency of the scheme and that Mr. Tait is taking a prominent part in furthering it. It is hoped the new hospital may become a kind of Rockefeller Institute in London.

A Conference of Medical Organizations

The British Medical Association has for some time declined to cooperate with other medical organizations engaged in political work on the ground that its activities cover the whole field and that the objects of the profession are to be achieved by the union of its members in one body, while several bodies mean disunion and weakness. However, the union of the whole profession, at present at any rate, is an impossible ideal. Recently there have been formed several bodies which seem to have come to stay. They profess not to be hostile to the British Medical Association, though their *raison d'être* is that it cannot satisfactorily perform the work which they have undertaken. The British Medical Association has now abandoned the policy of isolation and has consented to confer with other bodies. The approaching formation of a ministry of health has aroused considerable apprehension in the profession, and therefore medicopolitical activity. On the initiative of the Association of Panel Committees, a conference of representatives of the various medical organizations has been held by invitation of the Council of the British Medical Association, to discuss the possibilities of common action, the best means of securing for the Medical Consultative Council of the Ministry of Health the confidence of the great body of the profession, and the best means of securing the support of all medical organizations for the National Insurance Defense Trust. Organizations that were invited to send representatives include the Association of Panel Committees, the Medicopolitical Union, the Medical Parliamentary Committee, the Medical Women's Federation, the National Medical Union and the State Medical Service Association. The nature of these various organizations has been described in previous letters. It will be seen that all phases of medical opinion from the Medicopolitical Union, which is bitterly opposed to state interference in the relations of physicians and patients, to the State Medical Service Association, which is a socialistic body desirous that the practice of medicine should be entirely controlled by the state, were represented. A representative of the Association of Panel Committees (an organization representative

of physicians working under the insurance act) stated that the position of his association was that there should be a body directly representative of panel committees and looking specially after their interests. His association had used influence to modify the composition of the Insurance Acts Committee in that direction. It desired to bring about unity in the profession and thought the time had come when the British Medical Association should foster a federation of all medical associations. A representative of the Medicopolitical Union agreed that there was danger in the competition now going on between various medical organizations, and also in the existence of rival deputations on the same subject. His union did not desire to injure the British Medical Association or to rival it. He submitted, as a basis of an understanding, that: (*a*) There should be recognition of the trade union as a possible valuable adjunct in medical organization; (*b*) the Medicopolitical Union should be frankly recognized as the official body representing those members of the profession who wished to belong to a medical trade union; (*c*) the British Medical Association should recognize the Medicopolitical Union as the agent for the profession in collective bargaining in the final resort—that is, if ordinary means of persuasion had failed, and there was any question of refusing to accept or renew contracts or anything which might be construed as being in "restraint of trade," the matter should be dealt with by the Medicopolitical Union (it may be explained that anything done "in restraint of trade" is illegal except in the case of a trade union; (*d*) further conferences should be held to define limitations of work and prevent overlapping, and (*e*) there should be mutual agreement in important matters before any action is taken by way of joint deputations. A committee was appointed to consider the best ways of promoting common action.

The Dogs' Protection Bill

Strong opposition to the dogs' protection bill (THE JOURNAL, May 3, 1919, pp. 1311, 1313) is being organized in the profession. A deputation of fellows of the Royal Society of Medicine has lodged a protest with the government. Sir George Makins, president of the Royal College of Surgeons, referred to a resolution of the council of the college condemning the bill, and said that during the years in which he had been practicing there had been a very general change in the trend of thought with regard to surgical science; practice was being founded less and less on any form of empiricism, and more on rational data which in large part had been forthcoming as a result of experiments on animals. There were very strong reasons why the dog should be used. In the first place, there was an ample supply of dogs. A large number of dogs were now being destroyed in order to get them out of the way in a manner no more humane than that of the laboratory. The dog was suitable with regard to its size and the character of its tissues. Experiments did not entail suffering. They had to be performed with a particular technic, and if wounds were permitted to become infected the experiment was spoiled; in the absence of infection, the wounds were not painful. Vascular surgery was founded entirely on experiments on dogs. The technic of such an experiment as transfusion of blood had been perfected as a result of experiments on dogs. Experiments on dogs had furnished the knowledge that in place of destroying or obliterating an artery when wounded it was possible to repair it. They had shown also that an organ might be removed from an animal and an organ from another animal put in its place. All these were things from which it was possible to predict future fruit. It seemed extraordinary that at a time when the whole nation had suddenly awakened to the fact that success in war or in industry was bound up with experimental research, a few persons who were unable to appreciate the importance of experiments on vital processes should be so far successful in their attempts to hinder the advance of science in matters of life and death to the human race. He regarded the dog as doubly protected, for, in the first place, operations had to be performed in the most careful manner or they were useless, and, in the second place, any abuses were already prevented by legislation. He did not find fault with the restrictions already imposed.

Sir William Osler said that this bill was a test case—not for the dog, or for the medical profession, but for the intelligence of the House of Commons. If there was one thing more certain than another in the history of the science of medicine, it was that experiment had brought it to its present position, and if the experimental work which had been done from Harvey onward were examined, it would be found that four fifths of it had been done on the dog. When a student in Berlin in 1873, he saw in a small laboratory a most interesting series of fundamental experiments on the localization of brain function. These experiments were made on dogs; it was not until later that monkeys were procured and worked on by Horsley and others. In 1889, he saw in America a man who had had for five or six years recurring convulsions of a very serious character, and as a result of that early work on the dog, King removed a tumor from that man's brain, and the man lived for thirty years. There were now hundreds of persons alive and well and comfortable from whom brain tumors and spinal cord tumors had been satisfactorily removed simply because of early canine experiment. No young surgeon could grow to his full measure unless he was an experimental surgeon and in his own career had opportunities for doing experimental work.

Sir Hamar Greenwood, parliamentary secretary to the Home Office, said in reply that the government was opposed to the bill and would do its best to prevent the coming into force of a measure for stopping research. He had put down an amendment to the bill which provided that when an applicant wished to experiment on a dog he must state that the object would be frustrated unless a dog was used and that no other animal was available for the purpose. This would put dogs in the same position as horses now occupied under the law. Sir William Osler said he would prefer a straight negative: the amendment would impose an additional and unnecessary restriction. Sir Hamar Greenwood said that the amendment was made for further supervision rather than restriction, and Sir Watson Cheyne said that as a matter of policy it would be well to accept the amendment.

MEXICO LETTER

CITY OF MEXICO, June 2, 1919.

A New Sanitary Code

The Departamento de Salubridad Pública has drawn up a new Codigo Sanitario which is to be submitted to the Chamber of Deputies for consideration and adoption, as it is believed that the regulations now in vogue are inadequate as they have not been revised to keep pace with progress. Among the innovations proposed in the new Code is the prohibition of the practice of medicine to foreigners unless they can prove that they have taken the respective medical course in a medical college in good standing. At the same time, the regulations provide that the practice of medicine is to be permitted to persons without a degree on condition that they announce on their placards that they are "médicos prácticos." The regular physicians with a degree must publicly announce their educational credentials specifying the university or other institution where they obtained their diplomas. It is considered probable that in view of the urgent character of other matters before the legislature, such as legislation on labor and on affairs connected with the oil industry, which the chamber of deputies now has under consideration, that the executive authority will be authorized to issue officially the new Code.

Smallpox

The state of Guerrero, on the Pacific Coast, is now taking its turn in the contingent which we habitually pay to variola. According to dispatches from there a large number of persons have been attacked and the mortality is causing alarm as fully 20 per cent. of the victims die.

University Interchanges

The Universidad Nacional here has received through diplomatic channels an appeal from two members of the teaching force of the University of Colombia—I do not know of what faculty—who are desirous to come to Mexico for teaching purposes and with the aim to draw closer together the intellectual and friendly relations between the two countries.

The rector of the University of Morelia has asked the University of Mexico to bear in mind the students of the former university in case it is decided to send a party of students from Mexico to complete their studies in some institution of the same kind in the United States, a subject which has been much talked of lately.

Personal

Dr. Jesús Diaz de León, professor at the Escuela de Altos Estudios here, and at one time its director, has recently died at an advanced age. He was distinguished as a linguist, held the chairs of Hebrew, Greek and Latin, and wrote a work on "Greek Roots in the Spanish Language," and a translation from the original Hebrew of the "Song of Songs." He belonged to various scientific societies at home and abroad.

Dr. José León Martinez, professor of clinical medicine in the Faculty here and in the Escuela Medico-Militar, has been elected to membership in the Academia de Medicina. The paper he read on that occasion was on the symptomatology of influenza.

RIO DE JANEIRO LETTER

RIO DE JANEIRO, May 5, 1919.

Rural Sanitation

The government has promulgated a law, organizing rural sanitation in the outskirts of Rio de Janeiro and the states of Brazil, the principal aim of which is to combat hookworm disease and malaria. All expenses are borne by the federal government for Rio and the territory of Acre, situated in the extreme north of the republic.

In accordance with the constitution, public health service within state limits is under the direction of the state government. When under the direction of the federal authorities, half of the expenses are paid by the latter; but if directed by the state, the Union will enter only with one third. In case a state government paying half of the expenses, signs a contract with the Rockefeller Foundation to combat at least two endemic infectious diseases, the Union will pay one quarter.

The president of the republic (Relfim Moreira) praised highly the excellent work done by the Rockefeller Foundation in the states of Rio, Minas and São Paulo.

The director of public health exercises no jurisdiction over the rural sanitation service; that is, under the direction of the secretary of the interior. This is a great mistake, as has been pointed out to the government by various medical associations.

Protection of Railway Employees Against Infectious Diseases

The secretary of public works has initiated a service, obliging all federal, state and private railway companies, throughout the country, to protect their employees against infectious diseases, especially hookworm and malaria.

Eradication of Leprosy

The chief of the Rockefeller Foundation, in agreement with the secretary of the interior, who is responsible for the public health service, will send one of his assistants to travel through the country investigating leprosy and to see what means can be taken to eradicate this hideous disease.

In the last days of April, the foundation stone was laid for a leprosarium, which is being built in Mogy das Cruzes, by the government of São Paulo, in the state of the same name. It will contain all modern improvements, including a theater, cinema, library, playgrounds, etc. Its cost is estimated at about $1,200,000.

Commission to Draw Up Sanitary Code

The government has appointed five prominent physicians and a leading consulting lawyer to draw up a sanitary code, although according to the point of view of the secretary of the interior, this code can be enforced constitutionally only in the limits of the capital and the territory of Acre.

Reorganization of Oswaldo Cruz Institute

The Oswaldo Cruz Institute has been reorganized. Seven new assistants and six subassistants have been appointed.

Marriages

FRANCIS PATRICK MACHLER, Capt., M. C., U. S. Army, Chicago, on duty at Embarkation Hospital, Camp No. 2, Newport News, Va., to Miss Ruth A. Steele of Rogers Park, Chicago, at Richmond, Va., May 29.

GEORGE BRAUNLICH, LIEUT., M. C., U. S. Army, Davenport, Iowa, on duty at the Department Hospital, Manila, P. I., to Miss Karen Beck, San Francisco, at Manila, April 30.

WINFRED OVERHOLSER, Lieut., M. C., U. S. Army, Westboro, Mass., to Miss Dorothy Stebbins of Worcester, Mass., June 4.

FRANK THOMAS FORT, Louisville, Ky., to Miss Elizabeth A. Brown of Baltimore, June 4.

LEON UNGER, Chicago, to Miss Nina Kleinman of New York City, June 1.

Deaths

James Ewing Mears, Philadelphia; Jefferson Medical College, 1865; aged 80; a fellow of the American Surgical Society; honorary president of the Philadelphia Academy of Surgery; lecturer on practical surgery and clinical gynecology in his alma mater; professor of anatomy and surgery in the Pennsylvania College of Dental Surgery; acting executive officer of military hospitals during the Civil War; once captain in the quartermaster's corps of the Indiana Volunteers, and surgeon in chief of the Pennsylvania National Guard; author of a textbook on "Practical Surgery"; died at his home, May 28.

Frederick Porteous Henry ✦ Philadelphia; College of Physicians and Surgeons in the City of New York; 1868; aged 74; one of the original one hundred members of the Association of American Physicians; professor of principles and practice of medicine in the Woman's Medical College of Pennsylvania, Philadelphia, since 1891; a fellow, once president and honorary librarian of the College of Physicians of Philadelphia; author and editor of several works on practice of medicine and history; died at his home, May 24.

James Mason Barstow, Council Bluffs, Iowa; College of Physicians and Surgeons, Keokuk, Iowa, 1880; Bellevue Hospital Medical College, 1884; aged 64; professor of applied therapeutics in the John A. Creighton Medical College, Omaha; president of the staff of St. Bernard's Hospital, Council Bluffs; once president of the Missouri Medical Society; chief of the board of insanity commissioners, Council Bluffs for more than twenty years; died at his home, May 19, from heart disease.

William Gilson Farlow, Cambridge, Mass.; Harvard University, 1870; aged 74; professor of cryptogamic botany in Harvard University since 1879; a fellow of the American Association for the Advancement of Science, vice president in 1887 and 1898, and president in 1905; honorary L.L.D., Harvard, 1896; University of Glasgow, 1901, and University of Wisconsin, 1904; Ph. D., University of Upsala, Sweden, in 1907; a botanist of international reputation; died at his home, June 3.

John Augustus Donovan ✦ Lewiston, Me.; New York University, New York City, 1866; aged 77; once president of the Maine Medical Association, and Androscoggin County Medical Society; surgeon in chief of the Central Maine General Hospital, Lewiston, from 1891 to 1906, and thereafter surgeon emeritus of the institution; a member of the state legislature in 1913 and 1914; died suddenly while in church, May 24.

Julius Martin McLeod, Lincoln, Neb.; Ensworth Medical College, St. Joseph, Mo., 1890; Lincoln (Neb.) Medical College, 1895; aged 53; professor of surgery in his alma mater; professor of principles and practice of surgery and clinical surgery and president of the corporation of the Nebraska College of Medicine, Lincoln; a member of the surgical staff of the New Lutheran and St. Elizabeth hospitals, Lincoln; died at his home, May 18, from pneumonia.

John Frederick Barnett, West Haven, Conn.; Yale University, New Haven, 1869; aged 72; a member of the Connecticut State Medical Society; for many years treasurer of the borough of West Haven; for nearly a quarter of a century health officer (coroner) of the town of Orange; died in the New Haven Hospital, June 4, from cerebral hemorrhage.

George Wieseckel, Brooklyn; New York University, New York City, 1884; aged 56; dispensary physician to St. Catherine's Hospital, Brooklyn, from 1885 to 1889, and vaccinator and physician on the summer corps of the Brooklyn Health Department from 1888 to 1892; died in St. Catherine's Hospital, May 29, after an operation for appendicitis.

Sarah C. Jackson, Greensburg, Ind.; Central College of Physicians and Surgeons, Indianapolis, 1891; Southwestern Homeopathic Medical College, Louisville, Ky., 1894; aged 77; an inmate of the Indiana Odd Fellows' Home at Greensburg for two years; died in that institution, May 11, from asthma.

Watson Meredith Gentry, Franklin, Tenn.; New York University, New York City, 1855; aged 88; for four years a surgeon in the Confederate service during the Civil War; surgeon in chief of hospitals at Montgomery, Ala., in 1864 and 1865; died at his home, May 18.

Oliver Grimshaw, Swedesboro, N. J.; Hahnemann Medical College, Philadelphia, 1890; aged 58; who had been under

✦ Indicates "Fellow" of the American Medical Association.

treatment in a sanatorium for nervous disease; died at his home, May 27, from the effects of poison, self-administered, it is believed, with suicidal intent.

George Sloan, North Yakima, Wash.; Bellevue Hospital Medical College, 1878; aged 62; a member of the Washington State Medical Association; surgeon of the Northern Pacific Coal Company from 1888 to 1899; died at his home, May 23, from heart disease.

Charles H. Wells ✠ Shelton, Wash.; Michigan College of Medicine and Surgery, Detroit, 1893; aged 58; who was injured in an elevator accident in San Francisco, April 16; died from his injuries in the Central Emergency Hospital, San Francisco, April 17.

Charles Henry Brockett, New Haven, Conn.; Yale University, New Haven, 1886; aged 56; for many years town physician, and in charge of the medical department at Springside Home; died at the New Haven Hospital, May 16, from cerebral hemorrhage.

Adolph Gustav Sund ✠ **Asst. Surg., Lieut. (j. g.), U. S. Navy;** University of Minnesota, Minneapolis, 1917; aged 26; on duty at the U. S. Naval Hospital, Fort Lyon, Colo.; died at Cragmore Sanatorium, Colorado Springs, Colo., May 8, from tuberculosis.

Philip Joseph Catoggio, New York City; Eclectic Medical College of the City of New York, 1910; aged 34; a member of the Medical Society of the State of New York; visiting physician to the Italian Hospital; died at his home, May 29.

Ernest Heber Deaton, Hot Springs, S. D.; Ohio Medical University, Columbus, 1896; aged 43; a veteran of the war with Spain; assistant superintendent of a sanatorium at Black Hills; was found dead in bed at Johnstown, Pa., May 19.

Lester M. Drake, St. Joseph, Mo.; Eclectic Medical University, Kansas City, Mo., 1904; aged 40; was run over by a train at New Hampton, Mo., May 23, and died the same day from his injuries at Ensworth Hospital, St. Joseph.

Ashton Morrell Baldwin ✠ **Lieut., M. C., U. S. Army,** Marion, Ind.; University of Louisville, Ky., 1917; aged 28; who had been on duty at Base Hospital No. 21, Denver; died at Aurora, Colo., April 16, from tuberculosis.

Arthur Duncan Sinclair, Toronto, Ont.; University of Minnesota, College of Homeopathic Medicine and Surgery, Minneapolis, 1908; Syracuse (N. Y.) University, 1918; aged 36; died at his home, May 25, from pneumonia.

Cassius M. Porter, Hillsville, Pa.; Philadelphia University of Medicine and Surgery, Philadelphia, 1871; aged 72; for several years a member of the board of education; died at his home, May 20, from cerebral hemorrhage.

Floyd Burke Riley ✠ Monrovia, Calif.; Rush Medical College, 1908; aged 35; formerly of Chicago; instructor in surgery in his alma mater; died in Monrovia, May 16, from tuberculosis of the larynx.

Jedidiah Howe Adams, Paoli, Pa.; University of Pennsylvania, Philadelphia, 1889; aged 53; from 1889 to 1892; editor of the *University Medical Magazine;* died suddenly at his home, in Paoli, May 26.

Bruno John Ferdinand Getzlaff ✠ Sutton, Neb., formerly of St. Joseph, Mich.; Medical College of Ohio, Cincinnati, 1892; aged 51; died at his home, May 22, from chronic nephritis.

Somerset R. Waters, Watersville, Md.; University of Maryland, Baltimore, 1858; aged 89; a member of the Medical and Chirurgical Faculty of Maryland; died at his home, May 30.

John Dubois Dolan, New York City; Medical College of the State of South Carolina, Charleston, 1900; medical superintendent of the Reception Hospital; died at his home, May 28.

Ralph Maclay Lashell, Media, Pa.; Jefferson Medical College, 1888; aged 76; for fifty-two years a practitioner of medicine; a veteran of the Civil War; died at his home, May 20.

John Alphonsus Lanigan, Niagara Falls, N. Y.; New York University, 1877; aged 64; at one time a member of the Provincial Medical Board of Nova Scotia; died at his home, May 21.

Nicholas Walter Pendergast, Syracuse, N. Y.; University of Syracuse, N. Y., 1901; aged 40; medical inspector in the public schools from 1907 to 1915; died at his home, May 26.

David Theodore Martin ✠ Pomeroy, Iowa; Rush Medical College, 1882; aged 64; local surgeon of the Illinois Central Railroad; died at his home, May 22, from nephritis.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

PULVOIDS CALCYLATES COMPOUND

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report, not so much because the preparation with which it deals is of any great importance, but as a protest against the large number of similar irrational complex mixtures which are still offered to physicians.

W. A. PUCKNER, Secretary.

Pulvoids Calcylates Compound (The Drug Products Co., Inc.) are tablets each of which is claimed to contain:

"Calcium and Strontium Disalicylate, 5 grs.; Resin Guaiac, ½ gr.; Digitalis, ¼ gr.; Cochium [colchicum?] Seed, ¼ gr.; Squill, ¼ gr.; Cascarin, 1/16 gr. with aromatics."

"Pulvoids Calcylates Compound (Sugar coated orange color)" is advertised (*Medical Times,* January, 1919) as being "Analgesic-Antipyretic and Diuretic," and is included in the preparations designated by the advertiser as "Approved Remedies for LaGrippe and 'Flu.'" The claim that "Their tolerance is remarkable" refers not to the physicians who tolerate such products, but to the alleged fact that Pulvoids Calcylates are tolerated remarkably well. The advertisement continues:

"May be given persistently and continuously without gastric disturbances."

"They are uniformly efficient. More certain in effect than the ordinary Salicylates."

It would be difficult to find an advertisement of equal length containing a greater number of misleading or directly false statements than are found in this one. THE JOURNAL (April 22, 1916, p. 1307) has called attention to the lack of justification for this absurd mixture of drugs and has discussed the preparation with especial reference to its use in acute rheumatism, in which the salicylates occupy a special field. The advertisement just quoted mentions La Grippe and "Flu" (or Influenza) as special fields of usefulness for this preparation. This, apparently, is merely an attempt to spread the sail for any breeze. Salicylates have a field of usefulness in influenza in that they often afford relief from pain. There is no reason to suppose that a mixture containing calcium and strontium salicylates—the "Calcium and Strontium Disalicylate" of Pulvoids Calcylates is probably a mixture of calcium and strontium salicylate[1]—has any greater salicylic effect than an equal amount of sodium salicylate. On the other hand, it is worse than useless to give colchicum, squill and digitalis for the relief of such pains.

Should cardiac dilatation develop, and digitalis medication be required it would be impossible to adjust the dose of such a mixture with special reference to the digitalis action, which alone would be indicated for that condition. No educated physician at present would think of giving resin of guaiac merely because his patient required digitalis, nor would he administer "cascarin," whatever that may be, in fixed doses, every time he gave a dose of a salicylate.

It is impossible to recognize the several effects induced by this therapeutic omneity, and the medical profession should consider it an insult to be offered mixtures such as Pulvoids Calcylates Compound.

Pulvoids Calcylates Compound is, per se, of no great importance; it is one of a type. It has been selected as one of the utterly irrational and therefore potentially dangerous mixtures, that may be found by the score or the hundred in the catalogues of practically every pharmaceutical manufacturing firm in the United States.

1. See report, THE JOURNAL, Sept. 9, 1916, p. 827.

Correspondence

MENINGOCOCCUS INFECTION

To the Editor:—The very unusual opportunity afforded Major Herrick to study an epidemic of meningitis in which the septicemic type predominated (THE JOURNAL, Jan. 26, 1918, p. 227; *Arch. Int. Med.* **23**:409 [April] 1919) has given rise to a great deal of much needed discussion of the subject of meningitis. Of course, it has long been generally believed that the meningococcus gains access to the meninges by way of the blood stream. In most cases, however, this invasion of the blood stream seems to be of the nature of a bacteremia rather than a septicemia, since blood cultures are so often negative; since the number of organisms, when present, is usually so small; and since their presence is so brief, as shown by the failure in most instances to obtain a second positive blood culture.

Moreover, it has also been recognized for a long time that there is a septicemic type of meningitis, usually rare, in which the invasion of the meninges may be late, or even may not occur. In the last instance, of course, the term "meningitis" is a misnomer. It is obvious that cases of this kind are more likely to have the extrameningeal infection which Major Herrick has encountered in the epidemic at Camp Jackson.

It is probable that this type of case occurred at Camp Jackson in greater numbers and was more thoroughly studied than it has ever been before. Nevertheless, this must not make us lose sight of the fact that this type of case is unusual in civilian practice, at any rate. Indeed, it did not predominate in all of the epidemics at the army camps, notably at Fort Riley, where a hemorrhagic eruption was present in only 6 per cent. of the cases followed by recovery and in 14 per cent. of the fatal cases. At Camp Beauregard, on the other hand, the rash was a more prominent feature, being present in about 80 per cent. of cases. Stone and Truitt report from Fort Riley that "positive blood cultures were obtained in a larger percentage of cases with petechiae, while negative blood cultures were as a rule obtained in those patients not manifesting petechiae." It should be further noted that while Herrick at Camp Jackson and Landry and Hamley at Camp Beauregard obtained a much lower mortality by combining the intravenous and the intraspinal use of serum, Stone and Truitt had about the same result by the two methods: 28.1 per cent. for thirty-two patients treated by the combined method, and 28.8 per cent. for the total 191 cases. Of course, in considering the lower mortality obtained by the combined method by Herrick and by Landry and Hamley, one must remember that this was employed during the latter part of the course of the epidemic, when the mortality is practically always declining; also that experience in treating meningitis is a factor that always influences the mortality.

While it is quite definitely proved that the intravenous administration of serum is of value in cases of the septicemic type, it by no means follows that it is of value in the more common type with a sudden onset without a rash or with a few petechiae that last only a day or two and with signs of a meningitis, not a septicemia. Indeed, the results at Fort Riley seem to prove that it is not of value in these cases.

I confess that I am somewhat afraid of the reactions following intravenous injections, as they are at times much more severe than those following intrathecal injections. I have in mind one patient that died immediately after an intravenous injection of the serum, though he had been improving under the intraspinal treatment, and necropsy showed that his meningitis had practically cleared up. An overenthusiastic attending physician, however, wishing to leave nothing undone, insisted on an intravenous injection. Perhaps if adequate precautions had been taken, the unfortunate accident might have been avoided; but I think the doctor who gave this treatment was probably quite as competent and careful as the average physician will be. Another patient developed signs of cerebral hemorrhage while serum was being given intravenously, and died about eight hours later without recovering consciousness. Of course, this may not have been the result of the intravenous injection.

Several other severe but not fatal reactions have come under my observation or to my knowledge. If I err in wishing to avoid intravenous injections unless they are definitely indicated, I am in excellent company, for Netter says, writing even of meningococcal septicemia: "It is, therefore, more advantageous to substitute intrathecal injection, which is less dangerous than the intravenous one, which is apparently the most logical method." This is particularly interesting because Netter had earlier advised the intravenous treatment. Of course it must be kept in mind that serum injected intraspinally passes from the subarachnoid space into the veins, while the reverse action does not take place.

But the most important reason for carefully defining the use and the limitation of the intravenous injection is the fact that in some instances that have come to my attention, physicians have received the impression from the emphasis laid on the value of intravenous injections that they may be as good as, if not better than, intraspinal injections; in fact, that they may even replace the latter. For some reason, physicians generally seem to regard the technic of intravenous injection as easier than intraspinal, and would, if it were a question of choice, adopt the former. A study of Major Herrick's contribution leaves no doubt that he did not intend to give this impression. But he has, I think, failed to emphasize sufficiently the fact that the type of case at Camp Jackson is a heretofore unusual one.

In regard to the question of terminology, the use of "cerebrospinal" certainly seems superfluous, as all kinds of meningitis usually affect the meninges of both brain and cord. It has seemed to me that the term "epidemic meningitis" is simple and clear since the meningococcus is the only organism that causes epidemics of meningitis, and also it ought to be easy to adopt since physicians are accustomed to speak of "epidemic cerebrospinal meningitis." The term "meningococcus meningitis" is perhaps preferable, since it exactly defines the etiology; but it might not be so easily adopted, as physicians are not so used to it.

JOSEPHINE B. NEAL, M.D., New York.

PHENOL WITH HYDROGEN PEROXID FOR LOCAL APPLICATIONS

To the Editor:—Referring to Dr. Soresi's article (THE JOURNAL, May 3, 1919, p. 1288), I should like to call attention to the procedure employed by me for more than eight years.

If one applies liquid crystallizable phenol (full strength) with a brush or a swab to the surface of the skin or of a mucous membrane, a whitish spot results, followed shortly by local anesthesia. This method can be used, as suggested by Dr. Soresi, for many operations; it will cure light infections, as from ingrowing toe nails, furuncles, acne, ulcerations, or infection of the hysterovaginal folds. I have suggested crystallizable phenol, since that liquefied by the addition of alcohol or glycerin does not produce such an intense blanching and is less efficient.

Now comes my accidental discovery. If after the white spot appears we touch it with undiluted hydrogen peroxid, it will not disappear if the tissues are normal; if the submucous or subepidermic tissues have suffered alterations, the white spot will darken until it becomes black, and the nearer to the surface the affected tissues lie the darker it will become. This black spot is in reality a scar which can be opened slowly, since it is anesthesized, and the incision will surely open a way for the pus, débris, etc. It is a splendid method of diagnosis, prognosis and treatment.

Let us suppose that we have to deal with a Velpeau's syphilitic chancre healed in the "shirt button" way; the hardness remains and there is no suppuration. This chancre is not really healed, but just covered by the membrane or skin which protects it. It is touched with liquid phenol and forms a whitish spot. It is washed with a swab soaked in peroxid to make the spot disappear, and the white stain becomes gray, and in some places there are some darker or black spots indicating the presence of some abnormal tissues.

In a day or two the top has disappeared, and instead will be found a hollow with a hard rim. The treatment is repeated every twenty-four hours until all the hardness disappears and the true healing takes place, which is indicated by the unmixed white color of the spot produced by the phenol. If we have to treat a suppurating bubo, we touch the most prominent place with the phenol. We use afterward the peroxid, and in the place which should be opened a black line will be seen. We incise this, the pus is emptied, and after drying the cavity with absorbent cotton we place inside a piece of cotton previously soaked in phenol which has been squeezed out, and afterward another well soaked in peroxid. In this way we succeed in cleaning the cavity better than if a curet were employed and without causing pain, hemorrhage or microbial growth. A similar method is followed in the case of furuncles, gummas, ulcerations, gum abscesses, suppurating hematoceles, tonsil abscesses, etc.

Dr. A. Pérez Miró, Havana.
Professor of Therapeutics, University of Havana.

ADMINISTRATION OF ARSPHENAMIN

To the Editor:—I want to indorse the criticism by Dr. H. Goldenberg (The Journal, May 31, 1919, p. 1634) of the letter of Dr. G. W. McCoy (The Journal, May 10, p. 1386). Dr. McCoy says that arsphenamin should be given in a dilution of 30 c.c. of water to each decigram of the drug, and that injections should be given so slowly that two minutes should be allowed for each decigram; that is, from eight to twelve minutes for an injection. He closes with the astounding statement that "any physician who fails to observe these precautions should be considered as directly responsible for serious results that follow the improper use of the drug."

It is true that animal experiments have shown that arsphenamin is less toxic when given well diluted, but it is also true that the necessity for these dilute solutions arises only when arsphenamin is contaminated by toxic substances. It is further true that hundreds of thousands of injections in human beings have shown that arsphenamin as furnished by the manufacturers, when it is not grossly contaminated, is safely given in a dilution of 1 decigram to from 20 to 25 c.c. of water, and that no such dilution as Dr. McCoy suggests is necessary with a reasonably pure drug. Dr. Goldenberg's standard rule in thousands of injections has been to administer the drug in a solution of 1 decigram to 20 c.c. of water, and his experience has shown this dilution to be safe; the accumulated experience of great numbers of competent men has shown the same thing. In the face of this enormous experience, no one is in position to say that the use of such a solution shows gross negligence or incompetence.

The same criticism applies also to the directions issued by the U. S. Public Health Service for the method of neutralizing and alkalizing the solution by the addition of a fixed quantity of sodium hydroxid. Careful carrying out of this procedure by the drop method is accurate, and has proved in enormous experience to be safe. One cannot take a definite amount of sodium hydroxid and add to an arsphenamin solution with assurance of getting a proper alkalization, unless the manufacturer furnishes a very accurate supply of alkali for each ampule, which he does not now do. As a matter of fact, one of the manufacturers, the Takamine Company, in its circular, now gives directions for stated amounts of alkali, but immediately shows the danger of the whole directions of the Public Health Service by recommending that, *if this does not clear up the solution, "add more* caustic soda solution drop by drop until it is entirely clarified."

The technic of the administration of arsphenamin is based on a vast clinical experience, and the experience of the Hygienic Laboratory is not sufficiently extensive to overthrow other technics that have proved safe. I do not believe the method of administration which it directs is entitled to more respect than other methods which have had a larger experience and a safe one.

There is an important objection to trying to saddle all arsphenamin accidents on the technic: it lets out manufacturers from blame. Some of the manufacturers have themselves shown a pronounced tendency to lay all accidents to improper technic. Encouragement should not be given them that is not based on assured fact. The manufacturers have tried to dodge responsibility for arsphenamin accidents. It used to be too much water—now it is not enough—or water that was not freshly distilled, or something wrong with the sodium hydroxid, or contamination from a glass—anything but the drug itself. Those who have had experience in the use of arsphenamin know that as a matter of fact the thing they have had to fear in the past has been bad arsphenamin. They used a technic that was satisfactory for hundreds of injections, and finally they would get a bad ampule and have a blood-curdling experience. There are extremely toxic by-products that may appear if care and skill are not used in the manufacture of arsphenamin. As a matter of fact, these bad arsphenamins were produced at one time during the war to such an extent that a large supply of one manufacturer's drug had to be recalled. The Public Health Service itself found it necessary to raise its standard of purity for arsphenamin.

Arsphenamin should be administered carefully and with proper technic; as a matter of fact, however, it is surprising how carelessly it can be used with safety, if one has a pure preparation. But the necessity for the care in its proper administration is no reason for insisting on a technic that goes beyond the bounds that wide experience has shown to be safe.

William Allen Pusey, M.D., Chicago.

DOUBLE LUMEN IN FALLOPIAN TUBE

To the Editor:—My attention has recently been called to a description given by H. E. Metcalf (The Journal, Jan. 5, 1918, p. 20) of a double lumen in a human fallopian tube. The author was at a loss to explain the origin of the interesting structure and offered as an explanation the effect of adhesions and pressure due to traumatism of displacement. This explanation does not seem to me to account for the condition at all, or, if it does, Metcalf has not made the exact mechanism clear.

Since he did not refer to previous work on the subject, one may assume that he was not familiar with the report by Williams of two cases of diverticulum of the tube which he described in the *American Journal of Medical Sciences* in 1891. The description of the condition that Metcalf gives corresponds exactly to that given by Williams, which the latter showed to be due to a diverticulum. In the same year Landau and Rheinstein described a similar case which they published in the *Archiv für Gynäkologie* **39**:273-290, and which Williams accepts as a case of diverticulum.

As Williams points out, the condition is important, because some ectopic pregnancies might be well accounted for by the fertilized ovum entering the sac and being arrested there to undergo development. It is therefore important to have all the cases of diverticulum of the tube reported, and especially if an extrauterine pregnancy is found present in the diverticulum. My opinion from the data at hand, is that Metcalf's case is one of tubal diverticulum, and I should suggest that he or some one else interested in the condition restudy the specimen for a more complete description.

Thomas Byrd Magath, Chicago.
Department of Anatomy, University of Illinois, College of Medicine.

OPPORTUNITY FOR MEDICAL LIBRARIES TO GET DUPLICATE MATTER FROM SURGEON-GENERAL'S LIBRARY

To the Editor:—There has accumulated in the Surgeon-General's Library a considerable amount of material in the way of duplicate medical books and periodicals. Owing to lack of space, much of this material will have to be condemned and disposed of. In accordance with the policies of the library, a free access to all medical literature in duplicate has been given to the medical libraries of the country, the only condition being that they remove the material at their

own expense. Those in charge of medical libraries not too far away from Washington, D. C., may take advantage of this opportunity for adding to their collections or supplying their desiderata until September 1 of this year.

FRANCIS A. WINTER, M.D., Washington, D. C.
Colonel, M. C., U. S. Army; Librarian, Surgeon-General's Office.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

CHIONACEA

To the Editor:—Please inform me concerning chionacea, a compound manufactured by Nelson, Baker & Co., Detroit, giving me its composition and its merits.

JOHN THUND, M.D., Chicago.

ANSWER.—According to the 1914 catalog of this firm, chionacea has the following composition:

Each fluidounce contains:

Tinct. chionanthus	180 min.
Tinct. echinacea	90 min.
Euonymus	12 grs.
Lappa	16 grs.
Traxacum	16 grs.
Syrup senna	120 min.
Sol. sodium phosphate conc.	24 min.

According to the Epitome of the U. S. P. and N. F., prepared under the direction of the Council on Pharmacy and Chemistry, under action and uses of chionanthus or fringed tree bark:

Obsolete; no definite indications for its use. Formerly used by eclectics and homeopaths in hepatic disorders and syphilis.

Echinacea was examined by the Council on Pharmacy and Chemistry in 1909. Of this drug the Epitome states: "The claims for this drug as an 'alterative' and antisyphilitic are extravagant and unwarranted. There are no established indications for its use."

RIGIDITY OF CERVIX (RIGID OS)

To the Editor—What preparation is best for the condition known as rigid os? For instance, in childbirth, what drug may be used effectively and harmlessly, given hypodermically, to relieve this condition quickly? Some physicians use gelsemium and lobelia. If these are all right, I wish to know the dose of the combination. If you publish this in THE JOURNAL, please do not use my name.

S. J. M., Oklahoma.

ANSWER.—Obstetricians in general do not favor the administration of drugs for the condition known as rigidity of the cervix. In cases in which the rigidity is anatomic in nature it may be necessary to incise the cervix; if the rigidity is functional, quieting the patient, prolonged hot baths, hot applications, etc., may help. If the cervix is tetanically contracted, ether or chloroform anesthesia may be used. Some physicians rely wholly on hydrostatic, manual or instrumental dilatation and multiple incisions. Some give small doses of morphin in the early stages; others, chloral hydrate in 10 to 15 grain doses. So far as known, no drug has a specific effect on this condition. There is no reliable evidence that either gelsemium or lobelia is efficient, and the latter certainly should not be used because of possible dangerous effects.

PHYSICIANS' RECORDS UNDER HARRISON LAW

To the Editor—There seems to be confusion in this region as to whether the physician should make a prescription for every dose of narcotic drug he dispenses. For instance, if I should prescribe six tablets, containing one-fourth grain of opium to each tablet, to a patient in my contract work, must I make a prescription? Please set us right on this subject, for we are all in the dark on it. Please sign initials only.

P. E. G., Ky.

ANSWER.—If the prescription is to be filled by a pharmacist, a separate prescription must be written for each patient. If the tablets are dispensed by the physician, a separate record of each lot of tablets dispensed must be made showing the date, kind and quantity of drug dispensed and the name and address of the patient.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALABAMA: Montgomery, July 8. Chairman, Dr. S. W. Welch, State Capitol, Montgomery.

ARIZONA: Phoenix, July 1. Sec., Dr. Allen H. Williams, 219 Goodrich Bldg., Phoenix.

CALIFORNIA: San Francisco, June 23-26. Sec., Dr. Charles B. Pinkham, 904 Forum Bldg., Sacramento.

COLORADO: Denver, July 2. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

CONNECTICUT: New Haven, July 8-9. Sec., Regular Bd., Dr. Charles A. Tuttle, 196 York St., New Haven; Sec., Homeopathic Bd., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven; Sec., Eclectic Bd., Dr. James E. Hair, 730 State St., Bridgeport.

DELAWARE: Wilmington, June 17-19. Sec., Dr. H. W. Briggs, 1026 Jackson St., Wilmington.

DISTRICT OF COLUMBIA: Washington, July 8-10. Sec., Dr. E. P. Copeland, The Rockingham, Washington.

FLORIDA: Jacksonville, June 16-17. Sec., Dr. W. M. Rowlett, Citizens Bank Bldg., Tampa.

ILLINOIS: Chicago, June 16-19. Supt. of Registration, Mr. F. C. Dodds, Springfield, Ill.

KANSAS: Topeka, June 17. Sec., Dr. H. A. Dykes, Lebanon.

KENTUCKY: Louisville, July 1-3. Sec., Dr. J. N. McCormack, Bowling Green.

LOUISIANA: New Orleans, July 1-3. Sec., Dr. E. W. Mahler, 141 Elk Place, New Orleans.

MAINE: Augusta, July 1-2. Sec., Dr. Frank W. Searle, 776 Congress St., Portland.

MARYLAND: Baltimore, June 18-21. Sec., Dr. J. McP. Scott, Hagerstown.

MASSACHUSETTS: Boston, July 8-10. Sec., Dr. Walter P. Bowers, State House, Boston.

MISSISSIPPI: Jackson, June 24-25. Sec., Dr. W. S. Leathers, University.

NEBRASKA: Lincoln, June 30-July 2. Sec., Dr. H. J. Lehnhoff, 514 First National Bank, Lincoln.

NEW JERSEY: Trenton, June 17-18. Sec., Dr. Alex. MacAlister, 438 E. State St., Trenton.

NEW MEXICO: Santa Fe, July 14. Sec., Dr. R. E. McBride, Las Cruces.

NEW YORK: Albany, Buffalo, New York and Syracuse, June 24-27, Mr. George M. Wiley, director, Exam. and Inspections Div., State Edu. Bldg., Albany.

NORTH CAROLINA: Raleigh, June 23. Sec., Dr. H. A. Royster, 423 Fayetteville St., Raleigh.

NORTH DAKOTA: Grand Forks, July 1-4. Sec., Dr. G. M. Williamson, 860 Belmont Ave., Grand Forks.

OKLAHOMA: Oklahoma City, July 8-9. Sec., Dr. J. J. Williams, Weatherford.

OREGON: Portland, July 1-3. Sec., Dr. Frank W. Wood, 559 Morgan Bldg., Portland.

PENNSYLVANIA: Philadelphia and Pittsburgh, July 8-10. Sec., Nathan C. Schaeffer, State Capitol, Harrisburg.

RHODE ISLAND: Providence, July 10-11. Sec., Dr. B. U. Richards, State House, Providence.

SOUTH DAKOTA: Deadwood, July 8. Sec., Dr. P. B. Jenkins, Waubay.

TEXAS: Austin, June 24-26. Sec., Dr. M. F. Bettencourt, Mart.

UTAH: Salt Lake City, July 7-8. Sec., Dr. G. F. Harding, 407 Templeton Bldg., Salt Lake City.

VERMONT: Burlington, June 26-28. Sec., Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, June 17-20. Sec., Dr. J. W. Preston, 215 S. Jefferson St., Roanoke.

WASHINGTON: Seattle, July 1-3. Sec., Dr. C. N. Suttner, 415 Old National Bank Bldg., Spokane.

WEST VIRGINIA: Huntington, July 8-10. Sec., Dr. S. L. Jepson, Masonic Bldg., Charleston.

WISCONSIN: Milwaukee, June 24-26. Sec., Dr. J. M. Dodd, 220 E. 2nd. St., Ashland.

WYOMING: Cheyenne, June 23-25. Sec., Dr. H. E. McCollum, Laramie.

Recognize Certificates of National Board

The following fifteen state boards have definitely taken action to accept the certificate of the national board in lieu of the examination required for licensure in the respective states: Colorado, Delaware, Florida, Georgia, Idaho, Iowa, Kentucky, Maryland, North Carolina, New Hampshire, North Dakota, Ohio, Pennsylvania, Rhode Island and Vermont.

Wisconsin January Examination

Dr. J. M. Dodd, secretary of the Wisconsin State Board of Medical Examiners, reports the written and practical examination held at Madison, Jan. 14-16, 1919. The examination covered 24 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 21 candidates examined, 20 passed and 1, an osteopath, failed. Three candidates were licensed through reciprocity and 3

were licensed by virtue of a commission in the Medical Corps. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Rush Medical College	(1917) 89.5; (1918)	79.3,	85.8
Univ. of Mich. Med. School	(1898) 83.9; (1909) 85.6; (1917)		79
Jefferson Medical College	(1918)		88
Marquette University	(1919) 79, 80, 81.9, 83, 83.9, 84, 84, 85, 85.4, 85.4, 86.5.		85.3*
Milwaukee Medical College	(1909)		76.9

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Rush Medical College	(1914)		Illinois
Johns Hopkins University	(1908)		New York
Eclectic Medical College	(1910)		Arkansas

College	LICENSED BY ENDORSEMENT OF CREDENTIALS	Year Grad.	Certificate from
Chicago College of Medicine and Surgery	(1916)		U. S. Army
Johns Hopkins University*	(1908)		U. S. Navy
University of Pennsylvania	(1917)		U. S. Army

*Received certificate of graduation. M.D. degree will be granted on completion of hospital internship.

Connecticut March Examination

Dr. Charles A. Tuttle, secretary of the Connecticut Medical Examining Board, reports the written and practical examination held at New Haven, March 11-12, 1919. The examination covered 7 subjects and included 70 questions. An average of 75 per cent. was required to pass. Of the 28 candidates examined, 18 passed and 10 failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Yale University	(1913)		84.2
Georgetown University	(1918)		79.1
Loyola University	(1917)		77
Harvard University	(1919)		77.7
Tufts Coll. Med. Sch.	(1917) 85.1; (1918) 80.5, 83.7; (1919)		82.7
Columbia University	(1916) 77.1, 83.9; (1917)		84.9
Univ. and Bellevue Hosp. Med. Coll.	(1916) 78.2; (1918)	85.5,	88.8
Jefferson Medical College	(1916)	75.2,	84.9
University of Pennsylvania	(1918)		83.2
McGill University	(1918)		77.7
	FAILED		
Georgetown University	(1917)		74.4
University of Louisville	(1912)		66.8
Maryland Medical College	(1913)		64.6
College of Physicians and Surgeons, Boston	(1908)		65.9
Harvard University	(1915)		73.4
Tufts College Medical School	(1919)		69.4
University of Vermont	(1914)		67.8
Medical College of Virginia	(1917)		62.9
Milwaukee Medical College	(1903)		67.6
McGill University	(1918)		70.5

Book Notices

The Blind, Their Condition and the Work Being Done for Them in the United States. By Harry Best, Ph.D. Cloth. Price, $4. Pp. 763. New York: The Macmillan Company, 1919.

The author, whose previous compilation entitled "The Deaf" is well known, has now prepared this work of reference on conditions of the blind in the United States. The first part is general, giving statistics, compilations of judicial decisions and statements regarding the economic condition of the blind, and the cost of this deformity to the state. The second part deals with the prophylaxis of blindness and quotes freely from well-recognized statistics as to various causes. It takes up the general subject of heredity in its relation to loss of sight, follows with a discussion of trachoma, ophthalmia neonatorum and other diseases, and then considers blindness, accidents and methods of prevention. In one chapter of this part of the book the author demonstrates that blindness has, within a measurable time, shown on the whole a decrease, although not a material one, and that the chances are that the decline will continue. The final chapter of this part discusses organized movements for the prevention of blindness. The third part is concerned with the education of blind children. It is largely historical, discussing developments in various states, and giving special attention to the facilities available both from the standpoint of financial provisions and as concerns the qualification of various schools. The fourth part, "Intellectual Provision for the Adult Blind," traces the development of the Braille system, analyzing the literature at present available for the blind and enumerating the libraries that have been established. This section also includes a discussion of homes for blind adults and blind children, and industrial establishments providing these unfortunates with a means of economic independence. Several chapters are devoted to indemnities for loss of sight and to pension systems for the blind. Part six is devoted to the organizations interested in the care of the sightless.

The author has rendered a great service in compiling under one cover the extensive amount of valuable data that are available in this book. It is almost encyclopedic in character, and no one who is at all interested in the care of the blind, from any point of view, should fail to avail himself of this most useful work.

Sane Sex Life and Sane Sex Living. By H. W. Long, M.D., M. R. C. Cloth. Price, $5. Pp. 157. Boston: Richard G. Badger, 1919.

This book, we are told, was prepared especially to fill a long-felt want, that is, to supply a book which physicians may recommend to patients who require information on sex matters and sex living. Unfortunately, the book advances views and opinions that would not be endorsed by physiologists, much less by social workers. The author seems to believe that it is necessary to stimulate the sex interest and the sex function, and lays particular stress on methods for this purpose. We cannot commend the book as a safe one for the purpose for which its author states it was written.

Psychotherapeutics. By Frederick H. Gerrish, James J. Putnam, E. W. Taylor, Boris Sidis, George A. Waterman, John E. Donley, Ernest Jones, Tom A. Williams and Morton Prince. Cloth. Price, $1 net. Pp. 186. Boston: Richard G. Badger.

This book, of which the first edition appeared in 1909, consists of a series of papers on psychotherapeutics by various authors. These essays were originally published in the *Journal of Abnormal Psychology* and then gathered in book form. For the purpose of the present edition some revisions have been made, bringing the book up to date. For those wishing a beginning knowledge of psychotherapy, the book will be found suggestive.

A Manual of Gynecology. By John Cooke Hirst, M.D., Associate in Obstetrics, University of Pennsylvania. Cloth. Price, $2.50. Pp. 466, with 175 illustrations. Philadelphia: W. B. Saunders Company, 1918.

This summary of Dr. Hirst's lectures is a most practical work. The chapters on the breast, the rectum and diseases of the urinary tract are especially good. The subject of gynecology is briefly and systematically covered. As a concise discussion of the subject, this book is excellent.

The Diagnostics and Treatment of Tropical Diseases. By E. R. Stitt, A.B., Ph.G., M.D., LL.D., Rear Admiral, Medical Corps, U. S. Navy. Third edition. Cloth. Price, $2 net. Pp. 534, with 119 illustrations. Philadelphia: P. Blakiston's Son & Co., 1919.

This book by Admiral Stitt is well known as a practical guide to its subject. In the third edition only minor changes have been made, with the exception of the section on trench fever, which has been extensively rewritten, these changes of course being required by the newer war medicine researches.

Disease and the Odor Humanus.—The emanations from the skin vary with every passing phase of health, and in pronounced disease the altered smell may be easily noticeable. Inasmuch as all constitutional diseases are mirrored in the blood, and inasmuch as the cutaneous and respiratory emanations tend to alter with every alteration of the blood, it is probably no exaggeration to say that an all-wise physician with a sufficiently delicate sense of smell, could diagnose most (constitutional) diseases by the mere smell of his patient. But we have not arrived at that stage yet.—*Medical Press.*

Medicolegal

Duty of Employer Employing Physician for Employees

(Woody v. Carolina Spruce Co. (N. C.), 97 S. E. R. 610)

The Supreme Court of North Carolina says that the plaintiff and the defendant had entered into an agreement whereby the plaintiff was to pay out of his wages one dollar a month to the defendant, and, in consideration of this, the defendant agreed to furnish a competent physician to treat the plaintiff in case of sickness or injury. This regulation of the defendant applied to all its employees. The plaintiff averred that a Dr. Smith, the physician employed by the defendant, was unskilful and incompetent, and that when the plaintiff broke his right arm it was set by Dr. Smith and the president of the defendant, who was reported to have practiced medicine at one time, and that the operation was performed with such gross unskilfulness that the plaintiff was seriously and permanently injured. The defendant contended that the nonsuit granted should be sustained on two grounds: First, that there was not sufficient evidence to go to the jury that the doctor was an unskilled and incompetent surgeon, or, if he was, that the defendant knew of it or might reasonably have known of it; and, second, that if the doctor were unskilled, the plaintiff knew of that fact and, notwithstanding his full knowledge, as shown by his cross-examination, accepted his service, and was not permitted to complain of the defendant. But the evidence of two physicians tended to prove that the operation was very unskilfully performed and that the plaintiff suffered injury thereby. This of itself tended to prove incompetence on the part of those who performed the operation. There was also evidence that the defendant had knowledge, or facts sufficient to put it on inquiry, of Dr. Smith's incompetence and that, notwithstanding it, continued him in its service. Besides, there was evidence that the plaintiff, some time before he was injured, complained to the president of the company of Dr. Smith's incompetence, and when he was injured the president assured him that he and Dr. Smith were fully competent to perform the operation and that the plaintiff in submitting to the operation relied on such assurance, as he had a right to do. Viewing the evidence in this most favorable light for the plaintiff, as the court must do in cases of nonsuit, the court is of the opinion that the trial judge erred in granting a nonsuit; but should have submitted issues to the jury with appropriate instructions. The defendant was under no legal obligation to employ a physician to treat its employees; but, when it assumed to do so and to deduct a monthly sum from their wages for medical attention, it was under obligation to exercise due care in selecting the physician and in continuing him in its service.

Physicians Not Liable for False Imprisonment

(Springer v. Steiner et al. (Ore.), 178 Pac. R. 592)

The Supreme Court of Oregon reverses the judgment and dismisses the cause, in this action wherein the plaintiff obtained a judgment for $2,500 damages against two physicians, a Dr. Howard and a Dr. Holcomb, for alleged false imprisonment arising out of the plaintiff's having been confined in the county jail and then committed to the state insane asylum. The court says that, as to Dr. Howard, the evidence went only to the extent of showing that he believed the plaintiff insane, and tried to induce her to leave her association with a man who claimed to be a "New Thought Healer," whatever that may be, and whom Dr. Howard evidently considered a fraud and quack, and go to their home with Dr. Howard and his wife, who was the plaintiff's sister. He did not deny that he thought the plaintiff insane, but denied that he ever suggested she be sent to the asylum. He was not present, or in the city, when the proceedings were had in reference to her sanity, and there was absolutely no evidence that he even suggested or in any way participated in the proceedings. His motion for a directed verdict in his favor should have been allowed.

Nor was it claimed that Dr. Holcomb was the cause of the confinement of the plaintiff in the county jail, or of any treatment she received there. His connection began lawfully in obedience to a requirement of the county judge to examine the plaintiff as to her mental condition. There was no evidence as to what took place at the examination; but it appeared, independent of the certificate of the physician and the record made by the court, that there was an examination made, which the plaintiff was pleased to call a "farce," and there was the record made by the county court, which recited every jurisdictional fact concerning the examination. The objection was urged against this record that no warrant of arrest was issued by the court to bring the plaintiff before it for examination as to her sanity; and it was true that there was no record of the issuance of such a warrant, but it was also true that there was no provision of law requiring a warrant for that purpose. She was before the judge, and Dr. Holcomb and another physician were appointed to examine her as to her sanity, and on such examination she was duly adjudged insane.

The burden of proof was on the plaintiff to show, either that the physicians made no examination as to her condition, or that the certificate was maliciously false. Her opinion that it was a "farce" stated no probative fact. Her statement that no question was asked her in a 15-minute examination, which she admitted was made, which "tended to an examination of her mental condition," was another conclusion stating no fact on which a verdict could be founded. She testified that after her release from the asylum she had a conversation with Dr. Holcomb, in which he impliedly admitted that his certificate was based on information derived from the relatives. If such was the fact the jury would have a right to consider it in determining whether the certificate was negligently given, but not that it was given maliciously or in bad faith.

It must be remembered that this was not an action against Dr. Holcomb for malpractice in not using reasonable skill and diligence in examining into and diagnosing the plaintiff's condition. It was an action for negligently causing the plaintiff to be falsely arrested and imprisoned in the asylum. Whatever may have been the character of the examination (and the record made the county judge, who had general supervision over it, say it was "careful"), the defendant Holcomb did not and could not arrest or cause the plaintiff to be confined in the asylum. His examination and certificate would be utterly worthless in themselves to cause the confinement of the plaintiff. They were merely evidence (of a high order it was true) which the county judge might accept or reject. The court should have directed a verdict as to the defendant Holcomb.

Society Proceedings

COMING MEETINGS

Am. Assn. of Genito-Urinary Surgeons, Atlantic City, June 16-17.
Am. Assn. of Pathologists & Bacteriologists, Atlantic City, June 16-17.
American Association of Physicians, Atlantic City, June 16-17.
American Climatological & Clin. Assn., Atlantic City, June 14-17.
American Dermatological Association, Atlantic City, June 16-18.
American Medico-Psychological Assn., Philadelphia, June 18-20.
American Neurological Association, Atlantic City, June 16-18.
American Ophthalmological Society, Atlantic City, June 16-17.
American Orthopedic Association, Atlantic City, June 16-17.
American Otological Society, Atlantic City, June 16-17.
American Pediatric Society, Atlantic City, June 16-18.
American Psychopathological Association, Atlantic City, June 19.
American Society of Tropical Medicine, Atlantic City, June 16-17.
American Surgical Association, Atlantic City, June 16-18.
Congress American Phys. & Surgs. of N. A., Atlantic City, June 16-17.
Maine Medical Association, Portland, June 18-19.
National Tuberculosis Association, Atlantic City, June 14-17.
Nevada State Medical Association, Lake Tahoe, June 20-21.
New Jersey Medical Society, Spring Lake, June 24-25.
North Dakota State Medical Association, Grand Forks, June 24-25.
Southern Minnesota Medical Assn., Rochester, June 23-24.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Anatomy, Philadelphia

May, 1919, **25**, No. 3

Postnatal Development of Suprarenal Gland; Effects of Inanition on its Growth and Structure in Albino Rat. C. M. Jackson, Minneapolis.—p. 221.

Relative Volumes of Cortex and Medulla of Suprarenal Gland in Albino Rat. J. C. Donaldson, Cincinnati.—p. 291.

Development of Lobule of Pig's Liver. F. P. Johnson, Columbia, Mo.—p. 299.

Histogenesis of Heart Muscle of Pig in Relation to Appearance and Development of Intercalated Discs. L. Witte, Lawrence, Kans.—p. 333.

American Journal of Ophthalmology, Chicago

May, 1919, **2**, No. 5

Concussion and Contusion Injuries of Eye in Warfare. G. E. de Schweinitz, Philadelphia.—p. 313.

Activities of Division of Surgery of Head: Office of Surgeon-General. W. R. Parker, Detroit.—p. 319.

School of Ophthalmology, Medical Officers Training Group. M. Wiener, Cape May.—p. 322.

Refraction Methods Employed in Department of Ophthalmology of Attending Surgeon's Office, U. S. Army, Washington, D. C. J. R. Newcomb, Indianapolis.—p. 326.

Fundus Pathology with Red-Free Light of Vogt. R. Von Der Heydt, Chicago.—p. 334.

American Journal of Syphilis, St. Louis

April, 1919, **3**, No. 2

*Standardization of Wassermann Reaction. III. Red Corpuscle Suspension: Preservation of Red Blood Cells. J. A. Kolmer and C. P. Brown, Philadelphia.—p. 169.

*Syphilis in Senility: Report of Case. U. J. Wile, Ann Arbor.—p. 193.

Prevalence of Syphilis as Found in Routine Coroner's Necropsies. R. L. Thompson, St. Louis.—p. 196.

Syphilis in Three Generations. Case Report. R. L. Ash, San Francisco.—p. 200.

Affections of Endocrine Glands in Acquired Syphilis. H. H. Hazen, Washington.—p. 205.

Secondary Syphilitic Periostitis of Mandible: Report of Case. L. B. Kingery, Ann Arbor.—p. 213.

Syphilis of Eye—Acquired Form. L. S. Greene, Washington, D. C.—p. 215.

*Alcoholic Argyll Robertson Pupils: Alcoholic Psychosis Simulating Neuro-Syphilis: Case Report. K. A. Menninger, Topeka, Kans.—p. 232.

Roentgenologic Diagnosis of Syphilis. M. J. Hubeny, Chicago.—p. 235.

Diagnostic Value of Lowered Bone Conduction in Syphilis. W. H. Goeckermann, R. A. Barlow and J. H. Stokes, Rochester, Minn.—p. 240.

*Cholesterinized Alcoholic Extract of Human Heart as Antigen in Complement Fixation Test for Syphilis. C. E. Roderick, Battle Creek, Mich.—p. 248.

*"Provocative" Wassermann Test. S. Pollitzer and L. Spiegel, New York City.—p. 252.

Wassermann Reactions Made in Serological Laboratory of City of Cleveland. E. E. Ecker, Cleveland.—p. 260.

*Colloidal Gold Reaction. P. G. Weston, Warren, Pa.—p. 266.

Course to Take in Presence of Doubtful Chancre. D. W. Montgomery, San Francisco.—p. 276.

Fight Against Venereal Disease in Extracantonment Zone About Camp Zachary Taylor. L. D. Fricks and S. Graves, Louisville.—p. 280.

*Treatment of Syphilis in Tuberculous Patients. J. A. Elliott, Charlotte, N. C.—p. 291.

Standardization of Wassermann Reaction.—Comparative studies of various methods for the collection and washing of blood and in the preparation of erythrocyte suspensions for this test were made by Kolmer and Brown. With the fresh blood of persons, sheep and oxen, the method of collection by defibrination or in an anticoagulating fluid, had no apparent influence on the red blood corpuscles so far as their suitability for hemolytic antigen in the Wassermann reaction is concerned. Human blood cells secured by breaking up coagulums in saline solution were slightly less resistant to serum hemolysis. The authors found that small amounts of blood are best collected in an anticoagulating fluid. They advise that fresh blood cells should be used. Ordinary physiologic saline solution proved as suitable for washing cells as Locke's, Ringer's and Locke-gelatin solutions. The numerical concentration of a corpuscle suspension varied according to the duration and speed of centrifugalization in the last washing and according to method of measuring the corpuscle mass; best results were secured by measuring the corpuscles in an accurately graduated centrifuge tube after the final washing. It was noted that variation in the numerical concentration of corpuscle suspensions may influence the results of serum hemolysis; for this reason the same hemolytic antigen must be used in the preliminary complement and hemolysin titrations as in the Wassermann tests, unless the suspensions are prepared with uniform accuracy. The fresh erythrocytes of different healthy persons and sheep were found quite constant in their resistance to serum hemolysis. The use of suspensions of corpuscles from different persons and sheep does not constitute a source of error in the Wassermann test if technical conditions are correct. Preserved blood may be used in the preparation of hemolytic antigen for the Wassermann test and for the immunization of rabbits, but fresh blood is always preferable. Preservation with liquor formaldehydi and saccharose solutions was found practicable for periods of two to four weeks; the liquor formaldehydi method is quite simple and to be preferred. Methods for preserving blood and a method for preparing the red corpuscle suspension for a standardized test are described.

Syphilis in Senility.—Since 1915 Wile has had four cases of syphilis in senility under observation and treatment. The ages of the patients were 60, 62, 64 and 79, respectively. Of these, all were genital infections, following coitus. Two were serious as evidenced by iritis in one, iridocyclitis, glaucoma and early central nervous involvement in the other. Three of the four persons, including the one aged 79, were sexually potent. The fourth acquired his infection during attempted intercourse, although he was impotent and had no libido. The oldest person, aged 79, was exposed in June, 1918. In October, a painless lesion appeared on the penis. Early in January a generalized eruption appeared on the body. The patient had no headaches and except for a glaucoma he felt perfectly well. The blood Wassermann reaction was four plus positive. Notwithstanding the negative clinical findings the spinal fluid showed 132 cells, marked increase in albumin and globulin and a four plus Wassermann reaction. The patient remained under observation about six weeks, during which time he received five injections of neo-arsphenamin, varying from 0.2 to 0.4 gram, and one injection of arsphenamin, 0.1 gram. He suffered no reactions and the local lesions disappeared entirely. After the first injection the iridocyclitis and glaucoma rapidly disappeared, and up to the time of his discharge no further eye symptom had manifested itself.

Alcoholic Argyll Robertson Pupils.—Menninger reports a case of the Argyll Robertson pupil and other reflex changes commonly associated with neurosyphilis in a patient not suffering from neurosyphilis, or from influenza, or from dementia praecox. The only demonstrated etiology was acute alcoholism. With the fixed pupils there was a speech defect, a paretic facial expression, tremulous tongue and hands, unequal knee and ankle jerks, and a rather defective memory. Altogether this made a fairly typical picture of "alcoholic pseudoparesis."

Antigen in Complement Fixation Test.—Roderick claims that cholesterinized alcohol human heart extract is probably the most sensitive antigen used in the complement fixation test for syphilis. In a small number of tests, its use results in a slight degree (10 per cent. or less) of inhibition, in cases not syphilitic. This antihemolytic tendency can be overcome by proper titration of complement. Roderick advises that cholesterinized human heart antigen should never be used alone, but controlled by an antigen less sensitive. It is especially valuable in the control of treatment, remaining positive for a considerable length of time after all other antigens are negative.

"Provocative" Wassermann Test.—In a series of about 150 cases of treated syphilis of all kinds, Pollitzer and Spiegel did not find a single clear case of a provoked reaction; while the assumption of a cure in all these cases was obviously untenable. In a series of cases temporarily nega-

tive, selected as probably not cured, the "provocative" test failed to indicate the presence of syphilis though the subsequent course of the cases proved that the syphilis was not cured. Therefore, Pollitzer and Spiegel regard the "provocative" arsphenamin injection as a useless and often misleading procedure.

Colloidal Gold Reaction.—Methods for making colloidal gold and directions for doing the test are given by Weston. The characteristics of a good gold solution are stated and the nature of the substance causing the reaction is discussed.

Treatment of Syphilis in Tuberculous Patients.—Elliott presents the data in ten cases treated with arsphenamin. His observations lead him to conclude that mercury should be used with great care in tuberculous patients, that the deleterious effect is not immediate, but appears several months after the institution of administration of the drug. Therefore, arsphenamin seems to be the drug of choice in such cases, but should be given in small doses and at long intervals, inasmuch as the ordinary dosage accentuates active foci and is prone to cause a flare up in latent lesions.

Archives of Internal Medicine, Chicago

May 15, 1919, **23**, No. 5

*Clinical Significance of Blood Sugar in Nephritis and Other Diseases. J. R. Williams and E. M. Humphreys, Rochester, N. Y.—p. 537.
*Clinical Significance of Blood Sugar in Diabetes Mellitus. J. R. Williams and E. M. Humphreys, Rochester, N. Y.—p. 546.
*Tolerance and Rate of Utilization of Glucose in Individuals Exhibiting Various Degrees of Diabetes Mellitus. J. R. Williams and E. M. Humphreys, Rochester, N. Y.—p. 559.
*Epidemic of Influenza at Camp Merritt. F. M. Rackemann, Boston, and S. Brock, New York.—p. 582.
*Leukocytic Studies on Soldiers with Irritable Hearts. L. N. Gay, Lakewood, N. J.—p. 603.
*Influence of Fasting and Various Diets on Liver Injury Effected by Chloroform Anesthesia. N. C. Davis and G. H. Whipple, San Francisco.—p. 612.
Influence of Drugs and Chemical Agents on Liver Necrosis of Chloroform Anesthesia. N. C. Davis and G. H. Whipple, San Francisco.—p. 636.

Blood Sugar in Nephritis.—The average digestion blood sugar level in 113 normal individuals examined by Williams and Humphreys was 0.107 per cent., the values ranging from 0.07 to 0.14 per cent. The range of the blood sugar level in a series of sixty cases of miscellaneous diseases, chiefly gastro-intestinal disorders and pernicious anemia, excluding diabetes, nephritis and infections, was from 0.07 to 0.16 per cent., with an average of 0.115 per cent. In a series of nine cases of carcinoma there was a moderate elevation of blood sugar, 0.12 to 0.16 per cent. In a series of twenty-two miscellaneous infections, chiefly influenza, pneumonia, and streptococcus, the range was from 0.07 to 0.15 per cent., with an average of 0.11 per cent. In the early stages of nephritis, when the general metabolism of the body is but little disturbed, blood sugars, as a rule, are normal. In the last stages of nephritis, when the patient is in uremia, the blood sugar will be found very high, often equaling the severe stages of diabetes. Other important metabolic constituents of the blood will be found correspondingly increased, presenting a picture of complete metabolic failure. A third group of cardiovascular cases, characterized by high blood pressure and little or no evidence of renal disturbance, usually exhibits blood sugar levels slightly higher than normal. In severe cases of nephritis, patients may excrete small quantities of sugar in the urine, frequently giving rise to the misapprehension that true diabetes exists. In such cases the blood sugar level is inappreciably influenzed by carbohydrate restriction, and these patients should not be subjected to the discomfort of a rigorous diabetic diet. Failure in nitrogen metabolism precedes, often by months, the rise in blood sugar, so that the latter has a rather serious prognostic omen.

Blood Sugar in Diabetes.—The blood sugar levels in 127 cases of diabetes were studied by Williams and Humphreys, fifty-six males and seventy-one females, making in all 1,106 blood sugar determinations. In their study of the renal threshold for sugar in diabetes, they found no constant blood sugar level for the appearance of urinary sugar. There is no striking relation between the height of the renal threshold and the duration of the diabetes. It would appear, however, from the analysis of sixty-five cases that the threshold tends to rise with the the increasing duration of the disease. Younger diabetics as a rule have low or normal thresholds. The threshold rises with advancing years. When the diabetes is mild or quiescent, the point at which the kidneys eliminate sugar is stationary; but when the disease becomes progressive, the threshold tends to rise. Before death the blood sugar renal threshold may reach great heights with little or no sugar appearing in the urine. A rising renal threshold for sugar in the face of careful dietary treatment is a serious prognostic sign. A high renal threshold for sugar in mild diabetes under proper dietary regulations usually indicates some complication, such as arterial hypertension. A high renal threshold for sugar may mean a physiologic expedient to conserve food material. The authors believe that persistent high blood sugar levels promote exhaustion and rapid decline of function, and the high threshold is merely a safety measure. In severe diabetes, where extremely low diets are necessary to maintain life, the high threshold is essential to take care of the seriously impaired carbohydrate metabolism. In the treatment of diabetes it is desirable to main the blood sugar level as nearly normal as possible, even though severe restrictions in diet may be necessary for this purpose, notwithstanding the fact that the high threshold will permit of a much more liberal diet without the appearance of sugar in the urine. The authors believe that diabetes should be controlled on the basis of the blood sugar level rather than by urine tests. A persistent low blood sugar level may be regarded as an extremely favorable sign. A persistent high blood sugar level, in spite of undernutrition, usually points to an unfavorable outcome. In their experience, cases which hitherto had been intractable and had shown progressixe loss of food tolerance, when the blood sugar level was disregarded, have been greatly benefited and their tolerance increased by regulating the food intake so as to insure, when possible, a normal blood sugar level. While they regard 0.15 per cent. as the maximum normal digestion blood sugar level, they believe patients are safer when this level is not higher than 0.13 per cent.

Glucose Tolerance in Diabetes.—Williams and Humphreys endorse the glucose tolerance and utilization test proposed by Hamman and Hirschman and as later modified by Janney as a means of differentiating those metabolic disorders in which traces of reducing substance are excreted in the urine from renal diabetes and mild diabetes mellitus. As a means of measuring the degree of disturbance in carbohydrate metabolism in hyperthyroidism and other endocrinal disorders, they have found it to be much superior to tests depending solely on the determination of urine sugar. Renal diabetes is a definite physiologic disturbance, easily distinguishable by this procedure from true diabetes. The sugar tolerance and utilization test is particularly useful in differentiating those cases of very mild diabetes in which there are exhibited no clinical symptoms of the disorder. The various degrees of failure of carbohydrate metabolism in the more evident cases of diabetes are most strikingly shown by this method.

Epidemic of Influenza at Camp Merritt.—Of 4,979 cases of influenza treated at the Camp Merritt Base Hospital, 1,015 patients, or 20.4 per cent., developed bronchopneumonia, and of these latter, 31 per cent. died—a mortality for all the admissions of 6.3 per cent. The average time of onset of bronchopneumonia was 4.03 days in a series of 726 recovered cases, and 5.7 days in a series of forty-seven fatal cases. The temperature, pulse and respiration curves differed in the fatal and recovery patients. The fatal cases had a short course; in a series of thirty-nine such cases the duration of the pulmonary involvement averaged only 4.7 days. The temperature curve seldom assumed the sustained plateau so common in lobar pneumococcus pneumonia, but was rather of an irregular, remittent type, ranging from 99 to 105 or even to 107 F. Of greater value than either the temperature or the pulse was the respiratory rate, which was always raised. A climb in the rate, sometimes precipitous, usually more gradual, presaged death. The systolic blood pressure was normal in the acute stage of the disease, the diastolic was at times often as low as 55. In the cases of primary influenzal bronchopneu-

monia the average leukocyte count was low (5,000 to 15,000 cells per c. mm.). The presence of the hemolytic streptococcus tended to increase this average count but slightly, although the individual counts varied from 5,000 to 30,000 or even higher. Several cases were observed with counts below 2,000 cells, all of which were fatal. In a small series of these bronchopneumonia cases the coagulation time of the blood was determined and found normal. The urine showed, as a rule, a trace of albumin with granular and hyaline casts. Treatment was purely symptomatic, although stress was laid on keeping the intake of total fluids as great as possible. Digitalis, camphor and occasionally strychnin were used in an attempt to control the rising pulse rate; they seemed at times to be effective. When the patient was unable for any reason to take fluids well and became "dried up," with dry tongue and skin, tap water was given by rectum, and in a few cases salt solution (always made up with freshly distilled water) was injected intravenously in daily doses of 500 c.c. each. The results from the use of vaccines were unsatisfactory. Rackemann and Brock are of the opinion that all fatal cases develop "bronchopneumonia" before death, and that this "bronchopneumonia" is but a later manifestation of pure influenza, because: first, the lung signs develop in many cases during the primary influenza; second, the pathologic picture of the lungs in influenzal bronchopneumonia is distinctly characteristic, being quite unlike the picture seen in other forms of pneumonia.

Leukocytes in Irritable Heart Cases.—A slight leukocytosis was found by Gay in the unclassified group of patients with "irritable heart." The figures correspond to those found in patients with organic heart disease. There is a relative lymphocytosis, the limits being between 15 and 51 per cent. An eosinophilia is likewise present. A marked leukocytosis occurs in both patients and controls after the injection of epinephrin. This increase is much greater in the patients with positive reaction than in the controls, who did not respond to the drug. The morphologic studies of the blood in cases of "irritable heart" showed nothing of significance that might assist in the diagnosis.

Effect of Fasting and Various Diets on Liver Injury.—When chloroform anesthesia is indicated, Davis and Whipple advise giving liberal amounts carbohydrates and milk for at least two days preceding the anesthesia. They emphasize strongly that it is dangerous to give chloroform to man or animal whenever a fasting period has preceded the administration of the anesthetic.

Boston Medical and Surgical Journal

May 29, 1919, **180**, No. 22

Ten Years' Experience with Medical Defense Act. G. W. Gay, Boston.—p. 597.
Case of Thyroglossal Tract Fistula. W. C. Allen, Chicago.—p. 601.
Epidemic Work at Boston City Hospital. G. L. Farmer and J. Schoenfeld, Boston.—p. 605.
Influenza as Factor in Precipitating Latent Psychoses and Initiating Psychoses; History of Disease and Analysis of Cases. A. F. Harris, Worcester.—p. 610.
Hysteria in Male as Defense Reaction. Case Report. K. A. Menninger.—p. 612.

Journal of Nervous and Mental Diseases, New York

January, 1919, **49**, No. 1

Experimental Studies of Optic Thalamus and Corpus Striatum. F. S. Rogers, Chicago.—p. 1.
Case of Pseudosclerosis Associated with a Psychosis. J. A. Jackson and S. L. Immerman, Philadelphia.—p. 5.
*Cerebellar Gait. I. L. Myers, Chicago.—p. 14.

Cerebellar Gait.—Graphic records of the cerebellar gait made by Meyers seem to indicate that there is no asthenia (Luciani) in the muscles affected by the cerebellar lesion nor is there any arrhythmia in the sense that Luciani employed that term. There is no difference from the normal in the force with which the flexed and advancing limb returns to the vertical on the ground so that the height of the line is the same in the affected as in the normal limb. The primary essential effect of the cerebellar lesion is the change in the rhythm of the affected limb with relation to the corresponding limb on the normal side, the change exhibiting itself in the hyperactivity of the extensors so that the former limb extends and initiates the step too early as compared with the same action of the latter limb.

February, 1919, **49**, No. 2

*Lesion in the Putamen. I. Newmark, San Francisco.—p. 97.
*War Trauma of Spinal Cord. L. Grimberg, U. S. Army.—p. 115.
Blood Urea Nitrogen in Catatonia. W. C. Rappleye, Foxboro, Mass.—p. 130.

Lesion in Putamen.—Newmark cites the case of a man, aged 65 years, who after having experienced a transient disturbance of articulation some time before, suffered a slight impairment in the use of the left extremities, which appeared to him as a numbness or awkwardness in the action of the left hand and a loss of facility in moving the left foot toes, and was associated with a slight tremor of the left hand on voluntary movement and of the lid when he shut the left eye. In the remaining two and a half years of the patient's life no further progress in the affection of the extremities was observed, but about one year and a half before his death paralysis of the bladder and weakness of the anal sphincter supervened. There was no Babinski sign or involvement of the pyramidal tracts, and all the tendon reflexes were normal, but the record contains no mention of the abdominal or cremaster reflexes. Subsequently lymphatic leukemia was noted, and of this disease the patient died. At the necropsy a lesion was found in the putamen resembling in many particulars what Wilson described as progressive lenticular degeneration.

War Traumas of Spinal Cords.—Grimberg contends that an injury to the spinal cord alone does not exist; that the trauma must be conceived as a root and cord trauma. War traumas of the spinal cord are nearly always associated with edema or hemorrhages which may clear up in the course of the disease and change the entire clinical picture.

March, 1919, **49**, No. 3

Rôle of Focal Infections in Psychoses. H. A. Cotton, Trenton, N. J.—p. 177.
Sex Expression of Men Living on Lowered Nutritional Level. W. R. Miles, Boston.—p. 208.

April, 1919, **49**, No. 4

*Second Attack of Poliomyelitis After Interval of Fifteen Years. F. D. Francis and W. F. Moncreiff, Chicago.—p. 273.
Study of Cerebrospinal Fluid in Different Periods of Syphilis. G. Cornaz, Lausanne, Switzerland.—p. 282.
*Influence of Alcoholism in Production of Hallucinations in General Paralysis of Insane. S. L. Immermann, Philadelphia.—p. 289.

Second Attack of Poliomyelitis After Fifteen Years' Interval.—The patient in this case was a girl, aged 18 years. When 3 years of age she had an attack of acute anterior poliomyelitis with febrile state, paralysis of both upper extremities and transient weakness of both lower extremities. Several months after this attack almost complete recovery of the left upper extremity had taken place and on the right side there was a partial return of function with, however, a well marked residual paralysis of the deltoid, forearm supinators and all the intrinsic muscles of the hand. At the age of 18, the patient complained of general malaise, weakness, especially of the lower extremities and inability to stand or walk. The onset ten days previously was rather insidious with general malaise and pain in the lumbar region and lower extremities which came on following gymnastic exercises. Associated with this was a mild febrile syndrome and a catarrhal rhinopharyngitis which continued for four or five days. On the eighth day after the onset she rather suddenly lost power in the lower extremities so that she could neither walk nor stand. Paralysis of the left lower extremity was complete; of the right only partial. The clinical course was comparatively uneventful. There was no fever after the third day. When the patient left the hospital four weeks after admission the function of the involved muscles was but slightly improved. Six months later there was definite improvement, perhaps 15 or 20 per cent.; the lost function of the lower extremities was regained.

Alcoholism and Hallucinations of Insane.—In a study made by Immermann of seventy-three paretics, the patients fell into several clinical groups which tended to remain fairly

distinct. Hallucinations were found to occur in certain of these groups and tended to remain confined to those groups. Excessive alcoholism occurred in only some of the hallucinatory groups, and was at most an indirect factor in the production of hallucinations. Some paretics showed a conspicuous absence of hallucinations; certain manic types showed hallucinations and a high incidence of excess of alcohol use, abnormal make-up and absence of knee jerks, but other hallucinatory patients did not show this combination.

New York Medical Journal

May 31, 1919, **119**, No. 22

What Constitutes an Intoxication Beverage? C. P. Sherwin, New York.—p. 925.
Alcohol and the Individual. A. A. Brill, New York.—p. 928.
Psychologic Aspects of Alcoholism. L. P. Clark, New York.—p. 930.
Alcohol in Some of Its Social Compensatory Aspects. S. E. Jelliffe, New York.—p. 934.
Allen Method of Treatment of Diabetes. W. C. Ward, Lynn, Mass. —p. 936.
Clinical Picture of Streptococcus Viridans Infection. H. F. Wolf, New York.—p. 938.
Douching Nose in Children. W. A. Hitchler, Philadelphia.—p. 942.
Symptom Complex Complicating Acute Mastoiditis. J. C. Keeler, Philadelphia.—p. 944.
Prophylaxis and Treatment of Influenza. L. T. deM. Sajous, Philadelphia.—p. 945.

Southern Medical Journal, Birmingham, Ala.

May, 1919, **7**, No. 5

Epidemic Encephalitis. W. C. Allen, Chicago.—p. 231.
Diagnosis and Treatment of Achylia Gastrica. H. W. Soper, St. Louis.—p. 235.
*Functions of Thyroid. J. P. Stewart, Attalla, Ala.—p. 238.
Treatment of Tumors of Upper Jaw with Cautery. J. C. Bloodgood, Baltimore.—p. 248.
Surgical Procedure in Evacuation Hospitals. H. P. Cole, Mobile. —p. 257.
Diagnosis and Treatment of Abdominal Pain. M. S. Davie, Dothan, Ala.—p. 259.
Tonsillectomy; Indications and Contraindications. T. A. Cheatham, Jr., Birmingham.—p. 267.
Conservation of Vision. W. S. Sims, Jackson, Miss.—p. 273.

Functions of Thyroid.—That pellagra was due to the lack of the proper function of the thyroid is the theory advanced by Stewart. He reports five cases treated successfully with thyroid extract and sodium cacodylate. Twenty-eight patients in all have been treated successfully by this plan.

Wisconsin Medical Journal, Milwaukee

May, 1919, **17**, No. 12

Medicolegal Cases Involving Question of Insanity. R. Dewey, Wauwatosa.—p. 473.
Tuberculosis—Medical Specialty Through Popular Demand. G. T. Palmer, Springfield, Ill.—p. 476.
Psychology of Refraction. M. P. Andrews, Beloit.—p. 478.
Case of Sarcoma of Nose. S. G. Higgins, Milwaukee.—p. 482.
Trachoma. C. G. Dwight, Madison.—p. 485.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Archives of Radiology and Electrotherapy, London

April, 1919, **23**, No. 11

Stereoscopic Roentgenography. J. M. Davidson.—p. 340.
Gunshot Wounds of Chest. P. T. Crymble.—p. 346.
Technic of After-Treatment of War Injuries by Radium. W. C. Stevenson.—p. 356.
Farm Work as Cure for Sequels of Wounds: Substitution of Natural Physiotherapy for Artificial Physiotherapy. J. Bergonie.—p. 362.

Edinburgh Medical Journal

May, 1919, **22**, No. 5

Experiences of Consulting Physician on Duty on Palestine Lines of Communication. F. D. Boyd.—p. 276.
A Field Ambulance in Gallipoli, Egypt, Palestine and France. J. Young.—p. 288.
*Two Cases of Arteriovenous Aneurysm of Popliteal Vessels. F. C. Pybus.—p. 315.

Two Cases of Arteriovenous Aneurysm of Popliteal Vessels.—Both of Pybus' patients were shot through the calf, the bullet making a clean entry and exit. In both cases the popliteal artery and vein were damaged, leading to an arteriovenous aneurysm. Swelling and pulsation of the calf were present in each. Exploration revealed damage to both main vessels of such a character that repair was impossible, and in such a position that simultaneous ligature of the popliteal, anterior, and posterior tibial arteries and their corresponding veins was necessary to control bleeding. In both cases recovery ensued without any loss of vitality of the distant portions of the limb and with full functional use.

Journal of Tropical Medicine and Hygiene, London

May 1, 1919, **22**, No. 9

*Results of Vaccine Treatment in Filarial Lymphangitis in British Guiana. F. G. Rose.—p. 81.
*Epithelial Xerosis of Conjunctiva in Natives of the Sudan. R. G. Archibald.—p. 81.
Trichophyton Currii. A. J. Chalmers and A. Marshall.—p. 83.

Vaccine Treatment of Filarial Lymphangitis.—Having demonstrated a streptococcus in cases of lymphadenitis and lymphangitis, Rose has been experimenting with a vaccine prepared from streptococci isolated from these conditions, and he now reports on the progress which has been made with this method of treatment. After extended trial he has arrived at the conclusion that the most effective method of giving inoculations was in a series of three, the first inoculation consisting of 100 million dead cocci and the next two of 200 million, an interval of two weeks separating the inoculations. The reactions following the inoculations are almost invariably mild, and the doses may be doubled in longstanding cases. With this vaccine, Rose has inoculated sixty persons more than six months back, nineteen of these cases being of fairly long standing—that is to say, all longer than one year, and some two or three years or more since the first attack, the rest being recent cases. Of these nineteen patients, nine patients have had no recurrences since inoculation, while the others have had attacks varying in frequency and intensity; but most are positive that the attacks have grown milder in character. Of the forty-one recent cases, thirty patients were inoculated a year ago or earlier, and none has had a single attack since. Of the other eleven, three cannot be traced; two remained free for over a year, while the remaining six were done six months ago, and have had no recurrence yet.

Epithelial Xerosis of Conjunctiva.—In three cases of epithelial xerosis of the conjunctiva observed by Archibald, diphtheroid bacilli allied to the *B. xerosis* group were present in the xerotic areas. Experimental inoculation with material obtained from one of the cases produced xerosis of the conjunctiva in a rabbit.

Lancet, London

May 10, 1919, **2**, No. 19

*Missiles as Emboli. J. Bland-Sutton.—p. 773.
*Continued High Maternal Mortality of Childbearing. V. Bonney. —p. 774.
Treatment of Malaria among British Troops. R. Ross.—p. 780.
*Influence of Malaria on Wassermann Reaction. J. G. Thomson and C. H. Mills.—p. 782.
*Variations in Results of Successive Wassermann Tests: Clinical Application of Data. C. H. Browning and E. L. Kennaway.—p. 785.
Complement Fixation Test in Gonococcal Infections. A. H. Priestley. —p. 787.
*Some Forms of Irritable Heart. I. Harris.—p. 787.
*Persistence of Cerebrospinal Fever Cases as Carriers of Meningococcus During Convalescence. E. Embleton and G. H. Steven. —p. 788.
Subacute Trench Fever. J. H. Lloyd.—p. 791.
*Lacrimal Gland Secretion in Surgical Anesthesia. L. T. Rutherford. —p. 792.
Rectal Ether Anesthesia. J. C. Clayton.—p. 793.

Missiles as Emboli.—Sutton cites cases which prove conclusively that missiles occasionally become dangerous emboli. A soldier died after being wounded in several places, including the arm, chest and knee. There was a hole in the right side of his chest, in the right leaf of the diaphragm, and in the inferior vena cava 2.5 cm. below the place where the hepatic vein joins the caval vein. A flat piece of shrapnel, 2 cm. square and 12 mm. thick, lay in the right ventricle of the heart. There was no wound of the heart. The piece

of metal, after piercing the chest wall and the diaphragm, entered the inferior vena cava and the blood current transported it to the heart. There was nothing in the clinical history to suggest that the piece of metal in the ventricle hampered the action of the heart. The man died from severe streptococcal infection. Another soldier was wounded in the liver. He died. There was a hole in the hepatic vein through which the missile reached in turn the vena cava, the right auricle and the right ventricle, where it was detained. A German bullet (Spitzgeschoss) entered the left external iliac artery of a soldier and penetrated the adjacent iliac vein. The blood current carried the bullet along the big veins to the heart. It was ejected from the right ventricle and plugged the left pulmonary artery. The soldier survived these extraordinary sequences, including an amputation of the leg, twelve days. A boy shot himself in the heart with a 7 mm. revolver. There was much shock for some hours. Next day the lad complained of pain in the right arm and the limb presented signs of ischemic paralysis, and the bullet could be felt in the axilla. Ten weeks later the bullet was excised from the axillary artery; the vessel above and below the bullet was occupied by clot. Missiles may also enter a large artery and behave as emboli without entering the heart. Two such cases are cited.

High Maternal Mortality of Childbearing.—Bonney is of the opinion that when the public has been made to understand that labor itself is a surgical operation there will be necessitated the establishment of large lying-in hospitals all over the country, maintained out of public funds, either national or municipal. Besides free beds there should be paying wards and separate rooms for such as can afford them, the amount to be paid being arranged according to the patient's financial position. These hospitals should be the centers for the teaching of obstetrics, both to medical students and midwives, the former of whom should be resident in them for at least three months. Extern departments as they are at present carried on should be abolished. They perpetuate all the worst features of midwifery as practiced today—the inadequate surroundings, the wretched light, the meager assistance and the dirt, and lead the student to think that the regimen of the labor ward is an academic ideal unrealizable in general practice. In the staffing of these large hospitals the medical men of the town or district should take a large part and be paid for doing so, but a certain number of resident obstetricians would also be required. Patients taking private rooms should be attended by their own medical man and should pay him an adequate fee. The permanent resident staff should be at his service and should cooperate with him in the conduct of the labor, the routine of which he would already be quite familiar with, having been trained in that or a similar hospital.

Influence of Malaria on Wassermann Reaction.—The Wassermann test conducted by Thomson and Mills according to a recognized standard method did not give a positive reaction in malaria at any stage of the disease. The authors are convinced that if a positive Wassermann reaction is obtained in a case of malaria it is either due to undiagnosed syphilis or to faulty technic.

Variation of Wassermann Reaction.—Browning and Kennaway found that when the same specimen of syphilitic serum is repeatedly examined for complement fixation in the Wassermann test the actual amounts of complement fixed vary greatly on the different occasions. These variations are quite irregular, and depend on factors which cannot, so far, be rendered constant. This result prevents the attaching of clinical significance to minor variations in positiveness obtained on repeated tests of the same patient's serum—for example, under treatment. The evidence shows that the criterion of positiveness or negativeness of a serum should not be determined by the absolute amount of complement fixed, but by the amount of fixation relative to that produced by a known negative serum.

Some Forms of Irritable Heart.—Two causes of irritable heart noted by Harris are pericardial adhesions and infection of the myocardium with the colon bacillus.

Carriers of Cerebrospinal Fever.—Embleton and Steven believe that a case of cerebrospinal fever remains a carrier of the meningococcus on the average for six months after the onset of the disease and frequently longer.

Lacrimal Gland in Surgical Anesthesia.—The secretory activity of the lacrimal glands is regarded by Rutherford as a valuable sign in guiding the administration of anesthetics. If the anesthetic is administered in quantities just calculated to abolish the lacrimal secretion, and then wait, if at any time in doubt, until the secretion again appears, Rutherford feels confident that he is well on the safe side of the borderline between deep surgical anesthesia and an overdose. The exhibition of such drugs as morphin, scopolamin and atropin in a large number of cases completely abolishes the lacrimal secretion. In the course of the investigations undertaken to establish the reliability of the lacrimal activity as a means of regulating the amount of the narcotic employed, over 200 cases were anesthetized for operations varying in severity from the opening of a superficial abscess to the resection of several inches of intestine. When chloroform is administered alone the quantity of the lacrimal secretion is usually small, but in uncomplicated cases it is at once evident. During the administration of ether the lacrimal secretion is abundant, and in giving mixtures containing ether the secretion does not fall much below that when ether is given alone. Rutherford insists that the appearance of a lacrimal secretion during anesthesia is a constant phenomenon; it bears a definite relation to the depth of narcosis; and, since the exceptions to the general rule are easily recognized, the value of this sign must be at once apparent.

Medical Journal of Australia, Sydney

April 19, 1919, **1**, No. 16

Bacillary Dysentery Among British Troops in France, 1918. W. K. Inglis.—p. 313.
Prognosis in Influenzal Pneumonia. J. G. Whitaker.—p. 314.
*Experimental Study of Duodenal Ulcer. J. L. Jona.—p. 316.
Operative Treatment of Hydatids. H. I. Holmes.—p. 317.

April 26, 1919, **1**, No. 17

Influenza Epidemic, from Public Health Viewpoint. W. G. Armstrong.—p. 331.
Etiologic and Pathologic Aspects of Influenza Epidemic. J. B. Cleland.—p. 333.
Influenza Epidemic. J. M. Furber, H. V. D. Baret and A. L. Stafford.—p. 333.
*Hydatid Disease of Vertebra. J. M. Gill and H. Bullock.—p. 336.

May 3, 1919, **1**, No. 18

Tropical Australia and its Settlement. A. Breinl and W. J. Young.—p. 353.
Epidemic Bronchopneumonia (Spanish Influenza) in Samoa. F. T. Grey.—p. 359.

Experimental Study of Duodenal Ulcer.—Ulcers in the duodenum and jejunum as well as in the stomach and pylorus were produced by Jona by tying the pancreatic duct in dogs. The animals became emaciated, their hair fell out and they became altered temperamentally. In these cases the ulceration is attributed to the action of unneutralized acid gastric juice on the bowel mucosa. In the cases where ulceration occurred in the pylorus or stomach, it is surmised that these were animals in which there was a regurgitation of bile and pancreatic juice from the duodenum into the stomach, which occurs normally in over 50 per cent. of individuals. The absence of pancreatic juice caused by the ligature of the duct gave the free hydrochloric acid full play. Possibly there were also other factors at work which determined the exact sites of ulceration.

Hydatid Disease of Vertebra.—Gill and Bullock report a case of hydatid disease primary in the body of the second lumbar vertebra with secondary daughter cysts in the lumbar muscles and one in the spinal canal compressing the cord. While driving sheep, the patient got a pain in the left hip, which went down the thigh and was shooting and sharp in character. The pain was continuous for about a fortnight, when it extended to the other side and to the small of the back. About one month later control over both extremities was lost, and the limbs slowly became benumbed. He was treated for rheumatism, but did not improve under treatment. He had control of the bladder till four days before the authors saw him; since then he has had to be catheterized regularly. There was complete loss of power in both lower

limbs from the hips downward. All reflexes were absent, except the cremasteric, which was present on both sides and well marked. There was no projection of the spine, but in the lumbar region was an ill-defined area of tenderness. The blood on examination was normal. There was no eosinophilia. The Wassermann test was negative. A roentgen-ray examination revealed no bony abnormality. The patient recovered following a surgical removal of the lesions.

Medical Quarterly, Ottawa

April, 1919, **1**, No. 2

Classification of So-Called Tuberculous. C. D. Parfitt and D. W. Crombie.—p. 61.
Post-Bellum Surgery. A. S. Monro.—p. 72.
Practical Points in Examination of Disabled Men. J. L. Biggar. —p. 78.
Institutional Care of Paralyzed Pensioners. J. McCombe.—p. 83.
Psychotherapy. W. O. Gliddon.—p. 90.
Surgery of Discharged Soldiers. C. B. Keenan.—p. 93.

Bulletin de l'Académie de Médecine, Paris

April 22, 1919, **81**, No. 16

*Organization and Functioning of Preventoriums in Town and Country. Armand-Delille.—p. 499.
The Vaccination Service at Paris During the War. Guilhaud.—p. 502.
*Early Diagnosis of Gas Gangrene. E. Sacquépée and V. de la Vergne. —p. 504.
Salicaria in Treatment of Diarrhea in Infants and Enteritis in Adults. H. Dufour.—p. 507.
*Postinfluenzal Nervous and Mental Disturbances. H. Claude.—p. 508.
*Vaccination in Paris Factories. E. Marchoux and Klotz.—p. 510.

Preventoriums.—Armand-Delille discusses the organization and workings of what he calls *dispensaires d'hygiène sociale* in town and country. He emphasizes that their scope should not be restricted to the campaign against tuberculosis alone, but should include measures to reduce infant mortality and also prophylaxis of venereal disease, each of these three sections in a different location. Visiting nurses and volunteer aids are indispensable, and a different personnel should care for the sick and the well. [Dr. Armand-Delille has recently been inspecting institutions of the kind in this country.]

Early Differentiation of Germs Responsible for Infectious Process, Especially Gas Gangrene.—Sacquépée expatiates on the importance of giving the correct antiserum at the earliest possible moment. With incipient gas gangrene the question is, which of the three germs inducing gas gangrene is responsible for the case in hand. This can be decided in a few hours by inoculating guinea-pigs. In each of four test tubes is placed 1 c.c. of a maceration of the gangrenous tissue, and to three tubes in turn is added 1 c.c. of the antiserum for one or the other of the gas gangrene germs. After half an hour's incubation the contents of one tube are injected into one guinea-pig. The one not getting any antiserum always dies, and two of the three getting the antiserum sicken and die, but the third shows no reaction, testifying that the germs in the maceration of tissue had been conquered by the antiserum, and hence that this special antiserum is the one to use in the case in question. The response is generally pronounced in six or twelve hours, only rarely does it require twenty-four. The treatment begun tentatively with a polyvalent or other antiserum can then be continued with the correct antiserum. Another aid in differentiation is that in the form of gangrene presenting edema, *Bacillus bellonensis* is always found, generally alone. Hence this antiserum can be used with confidence from the first.

Postinfluenzal Nervous and Mental Disturbances.—Mentioned in Paris Letter, p. 1630.

Vaccination in Paris Munitions Factories.—As mentioned in the Paris Letter, page 1630, about 306,587 persons were vaccinated and 52 per cent. of the 224,168 reexamined showed the characteristic pustule. This included 62 per cent. of all the women and 19 per cent. of the workers from the African or other French colonies.

Bulletins de la Société Médicale des Hôpitaux, Paris

March 7, 1919, **43**, No. 9

*Pathogenesis of Hippocratic Fingers. A. Souques.—p. 186.
*Intrapulmonary Tuberculous Glands. H. Méry, H. Salin and L. Girard.—p. 188.
*Enteroneuritis. M. Loeper.—p. 196; Id.—p. 203.
*White Dermographism. J. C. M. Mussio Fournier.—p. 207.
*Measurement of Pressure in Large Intestine. E. Joltrain, P. Baufle and R. Coope.—p. 211.
Urticaria from Emetin. R. Savignac and A. Alivisatos.—p. 214.
*Measurement of Size and Contracting Power of the Stomach. P. Le Noir and R. Gaultier.—p. 216.
*Lethargic Encephalitis. P. Claisse.—p. 222.
*Influenza plus Lethargic Encephalitis. G. Milian.—p. 225.
*Acromegaly plus Diabetes. M. Labbé and S. Langlois.—p. 229.
*Diabetes with Insufficiency of the Pancreas. G. Faroy.—p. 234.
*Abnormal Spinal Fluids. J. Lochelongue.—p. 238.

Hippocratic Fingers.—Souques reports a case which seems to indicate that impeded circulation is the factor responsible for the finger deformities described by Hippocrates and called by his name. The deformity was restricted to one hand, and the veins of the arm above were varicose to a pronounced degree.

Intrapulmonary Tuberculous Glands.—Méry, Salin and Girard analyze the percussion findings in nine cases of tuberculous glands in the hilum of the lung. They form a tumor, but the tumor is in the lung, and there are no evidences of compression of the large blood vessels, no spasmodic cough, and no dyspnea of glandular origin.

Enteroneuritis.—Loeper remarks that the injury of the nerves of the intestine in the course of any enteritis is usually masked by the symptoms from the inflammatory process. But after the latter has subsided then the symptoms from irritation of the nerves become apparent. There may be an arrhythmia of the intestine analogous to arrhythmia of the heart. This may be the explanation of mucomembranous enteritis, some lesion of the intestinal nervous system, sequela of some enteritis in the past possibly transient and unnoticed, but leaving behind it this mucorrheic enterospasm. The enteroneuritis may even create the enteritis or prolong it. Certain forms of secondary neuritis may be traceable to it, and remote neuralgia.

White Dermographism.—Fournier calls attention to the remarkable improvement under systematic epinephrin treatment in a case of acute Addison's disease in a young woman. The onset was with sudden pain in the lumbar region, very severe for a week, the white line indicating in addition suprarenal insufficiency. He never found this white dermographism in 250 patients with various other diseases, but it was pronounced in a group of influenza patients with low blood pressure and extreme weakness. It was absent in all the other influenza patients tested, and it disappeared under epinephrin treatment.

Pressure in the Intestines.—Joltrain, Baufle and Coope give an illustration of a manometer connected by a long T tube with a douche can. The long arm of the T tube is introduced into the rectum and a given amount of fluid is injected. Then a pinchcock shuts off the douche can tube, and the height to which the fluid, as it is expelled, rises in the manometer tube is accepted as an index of the pressure exerted on the fluid by the walls of the large intestine, and hence of the tonus and the irritability of the large intestine. A high pressure parallels the frequency and intensity of the pains—objective testimony to the actual existence of the latter. The tolerance of the bowel for fluids can also be determined in this way. They call the instrument a telenteromanometer.

The Pressure in the Stomach.—Le Noir and Gaultier insufflate into the stomach a known amount of air, which allows an estimate of its capacity. Then they record the pressure under which the air is expelled, and thus estimate the tonicity of the musculature. Their several months of study of this gastrovolumetry and gastrotonometry, as they call them, have confirmed the reliability of the findings.

Lethargic Encephalitis.—Claisse reports three cases of an abortive form of lethargic encephalitis; there was no actual lethargy, merely somnolency. In one case disturbance in vision was the first serious symptom, and there was slight ptosis. Malaise, headache, somnolency and slight fever had been noticed for a week. The young man began to recover in the sixth week.

Milian reports a case in which the symptoms of a fulminating lethargic encephalitis developed as the young woman was convalescing from influenza.

Acromegaly and Diabetes.—Labbé's patient, a miner of 48, has hypertrophy of the pituitary, also acromegaly, while at the same time he presents symptoms of diabetes, but there is no wasting away and pituitary treatment displayed no action on the polyuria. The glycosuria, however, was remarkably influenced by pituitary treatment, plus reduction of intake of carbohydrates, the sugar in the urine dropping from 129 gm. to zero in four months. The case seems to confirm the assumption that not the pituitary itself, but irritation of some center in the base of the brain is responsible for the diabetes and the polyuria.

Diabetes with Insufficiency of the Pancreas.—Faroy relates that the pancreas digestion had been interrupted in a man of 58 to a degree suggesting cancer of the pancreas or ampulla of Vater, but the absence of jaundice and of pain during the two years excluded malignant disease. Continuous thirst, insatiable appetite, polyuria and 140 gm. of sugar in the twenty-four hours had preceded the digestive disturbance. Under a course of pulverized pancreas treatment the digestion and stools returned to clinically normal, but the diabetes was not modified by it in the least. Thus, the external secretion of the pancreas was favorably modified or supplemented, while the internal secretion was not influenced.

Anomalous Spinal Fluids.—Lochelongue discusses the paradoxical findings in some among 250 specimens of cerebrospinal fluid examined. Abnormally small amounts of ash, as also lymphocytosis, are encountered in bacterial meningitis with a subacute course. A small amount of ash with a clinical picture suggesting acute disease is evidence of an acute infection superposed on a slow meningeal infection or an exacerbation of some previously latent infection. One case confirms the opinion that, even with pronounced polynucleosis, a high sugar content excludes bacterial meningitis unless, on account of diabetes or traumatism, the sugar content previously had been extraordinarily high. He also emphasizes the possible differential importance of his constant finding of an abnormally high sugar content at the time of an epileptic seizure. In one case of poliomyelitis in a young man, he found 0.45 gm. albumin; 1.20 gm. sugar, and 0.52 gm. urea in the spinal fluid.

Journal d'Urologie, Paris

May, 1919, **7**, No. 5-6

Factitious Disease of Urinary Apparatus. Escat.—p. 481.
*Appendicitis as Complication of Movable Kidney. S. Rolando.—p. 497.
War Recto-Urethral Fistulas. R. Le Fur.—p. 503.
Treatment of Gonorrhea in Wartime. Carle.—p. 523; C. Gauthier. —p. 529.
Urinary Stones in the Military. F. Cathelin.—p. 531.
*Enrichment Method for Tubercle Bacilli in the Urine. M. Vivier. —p. 537.
*Plastic Induration in Corpora Cavernosa. Corbineau.—p. 543.
Congenital Fistula in Dorsum of Penis. Ehrenpreis.—p. 585.
Hernia of Bladder Containing a Stone. Rougier.—p. 587.
Kidney Shattered by Projectile; Recovery after Nephrectomy. H. Mondor.—p. 590.
*Incarceration of Penis in Metal Ring. Fonseca.—p. 595.
Urethra with Three Meatus. A. Boeckel.—p. 598.

Appendicitis as Complication of Movable Kidney.—Rolando objects to the statement that appendicitis is a frequent accompaniment of movable kidney. In his own experience with twenty-five cases of right nephropexy for movable kidney he found signs of appendicitis only in three cases. In the single case of unmistakable acute appendicitis, the kidney disturbances were of many years' standing, while the appendicitis had only developed recently.

Enrichment of Tubercle Bacilli in Urine.—Vivier comments on the rapidity, simplicity and reliability of the Ellermann-Erlandsen method for enrichment of the tubercle bacilli in the urine by centrifuging for twenty minutes, diluting in 5 or 6 c.c. of a 1 per four hundred solution of sodium carbonate, and incubating for twenty-four hours at 37 C. After this they centrifuge anew for twenty minutes, decant and dilute the sediment in 5 or 6 c.c. of a 1 per four hundred solution of sodium hydroxid. Then heat in the water bath to boiling for five minutes, and centrifuge anew. The staining can be done by the Spengler technic. All the cellular and bacterial débris except the tubercle bacilli are destroyed by these measures and the diagnosis can be made at once without waiting for inoculation of animals.

Plastic Induration of the Corpora Cavernosa.—Corbineau has compiled 188 cases from the literature and reports a case personally observed in which one or more small lumps, like cherry stones, developed in the corpora cavernosa. He tabulates the details of the entire 189 cases with four pages of bibliography; the description of the first case dates from 1743. Medical treatment rarely gives results, and then only incomplete. Surgical removal of the lumps may be called for if they cause appreciable disturbance, but it is useless to attempt it until the induration has reached its complete development. Radium treatment has never been applied in any case to date, to his knowledge.

Removal of Incarcerating Metal Ring.—Fonseca gives an illustration of forceps with a circular saw in one blade. It can be run by a thumbscrew. The other blade is narrow and flat, and is slipped inside the incarcerating ring, where it serves as a bed for the saw as it cuts through the ring.

Lyon Chirurgical

November-December, 1918, **15**, No. 6

*Bacteriologic Index for Suture. P. Piollet and others.—p. 677.
*Chemical Index for Suture. W. Mestrezat.—p. 698.
*Primary Suture of Infected Wounds. M. Audibert and P. Convert. —p. 718.
*Primary Suture in Stages. R. Leriche.—p. 723.
Treatment of Old Bone Fistulas. A. Chalier.—p. 732.
Operating under Screen Control. T. Nogier.—p. 740.
*Torsion of Displaced Spleen. P-A. Petridis.—p. 747.
Femoral Aneurysm. G. Bolognesi.—p. 760.
Preferable Means for First Immobilization of Fractures. J.-P. Lamare. —p. 767.
Tardy Tetanus after Amputation. J. Perret and M. Bernheim.—p. 785.

Indications for Secondary Suture.—Piollet and his coworkers reiterate that even secondary suture after a war wound without fracture gives much better functional results than when the wound is allowed to heal spontaneously, and should be applied to all clinically sterile wounds even if bacteriologic examination is impracticable. The coexistence of the streptococcus and the staphylococcus gives the least favorable conditions for the success of the suture, but one alone does not always prevent healing by primary intention.

Chemical Index of Fitness of Wound for Suture.—Mestrezat asserts that it is possible from the chemical findings in the secretions of the wound to estimate with some degree of accuracy the organic defense that is being offered to infection. The serous fluid that had soaked into the dressings was systematically examined in some cases and the content in chlorids, albumin, and the proteolytic capacity, etc., were recorded over long periods and compared with the state of the healing process. The test found most instructive was what he calls the formaldehyd index or suture coefficient. It indicates practically the putrescibility of the secretions of the wound, that is, the percentage of the proteolytic nitrogen (ammonia, amino acids) found in the 100 c.c. of water in which the used dressings have been soaking for half an hour. He calls it the *azote de protéolyse titrable au formol* test, and describes the simple technic. His tabulations of the findings in large numbers of cases show the rise and fall of the index parallel to the clinical conditions in the wound. The ease and rapidity with which this simple and inexpensive test can be applied justify its use on a large scale as an instructive guide, other things being equal.

Primary Suture with Infected Wounds.—The results of primary or delayed primary suture of clinically infected wounds were surpassingly good in the 395 cases reviewed, even although sometimes the wound had to be opened and excision done during the secondary period.

Primary Suture in Stages.—Leriche reports most excellent results in extremely extensive war wounds sutured in three stages, the deeper layers first, then the middle layer and finally the skin, allowing an interval of two days between each. He declares that the results are as perfect as with primary suture, while it permits suturing many wounds which otherwise would forbid suturing.

Torsion of Spleen.—Petridis gives colored plates of the spleen removed from a young man which showed the effects of torsion and of a cancerous growth on the upper pole. The downward displacement of the spleen had brought the lower margin below the pubis. In a second case the spleen had sagged into the right iliac fossa and adhesions connected it with the appendix. This patient was a woman of 32, and the spleen was twisted twice on its axis, and had dragged down the end of the pancreas. Both patients recovered after splenectomy.

Paris Médical

April 19, 1919, **9**, No. **16**

*Rachitis. M. Vargas (Barcelona).—p. 309.
*Typhus. G. Heuyer.—p. 318.

Rachitis.—Vargas reiterates that rachitis is a national problem in nearly every country. It is a world scourge, preventing the normal development of the young, leaving them damaged not only in their bones, but also in their mental and moral faculties. He expatiates on the prodromic symptoms which, when heeded, permit the removal of the causes. This prodromic stage includes the period from the first signs that the child is not thriving normally to the manifest deformity in the skeleton, evident in the skull during the first six months of life and in the fifth and sixth ribs in infants from 6 to 20 months old. The child whimpers when it is moved, the scalp sweats freely, the head is swung from side to side as soon as it touches the pillow and digestion is imperfect. A waxy pallor is one of the earliest symptoms, and the hemoglobin percentage is low. The very first sign of rachitis is a special constipation. The feces are hard; the rectum is unable to expel the lump and it sticks in the anus until aided by mechanical means. There may be fissure of the anus and prolapse of the rectum. Other signs of rachitis soon follow. The constipation may alternate with diarrhea, but in both types of stools the content in calcium salts is above normal. The eruption of the teeth and walking are retarded, proportional to the age at which the rachitis develops.

In the second stage the disease, which commenced with the blood, attacks the blood-producing organs, the bone marrow in particular. The resulting abnormal conditions in the marrow and cartilage make their effects felt in the development of the bone. But other organs are affected likewise, the nervous system, the muscles, skin and mucous membranes, as Vargas describes in detail, defining rachitis as a "toxic, infantile dystrophy characterized by hemolysis, irritability of the blood-producing system and by osteism." The tendency in time is to a spontaneous recovery, but the damage from it can only be warded off by removing the cause. For this he gives calomel in case the stomach is out of order, restricting the diet to milk alone, and aiding digestion with hydrochloric acid and pepsin. When the condition has improved under this and the digestion permits, he gives one or two drops of 10 per cent. phosphorized oil. Cleanliness, out of door air, possibly the seashore, complete the cure. He has never witnessed any benefit from epinephrin, bone marrow or thymus extract.

Typhus.—Heuyer enumerates the various differential signs in typhus, calling attention in particular to the rigidity of the rectus muscles in the portion reaching from the ribs to the umbilicus, and also to the pain on pressure of the external margin of the rectus muscles at a point where the muscle is crossed by a line passing from the umbilicus to the anterior angle of the tenth rib. On the right, this angle of the tenth rib corresponds to Flemming's point for bladder disease. The painful point in typhus thus cannot be confused with Flemming's point above or McBurney's point below. Pressure on this point causes the patient to grimace, and there is also a vasomotor reflex in the face, which grows red and sweats when the two points above and near the umbilicus are pressed. The cerebrospinal fluid also shows characteristic changes, leukocytosis, high pressure and high albumin content. The polynuclears predominate during the acute phase, and then the reaction is a lymphocytosis. Lumbar puncture usually relieves the headache and tranquilizes the patient.

Presse Médicale, Paris

April 28, 1919, **27**, No. 24

*Spinal General Anesthesia. V. Riche.—p. 225.
*Traumatisms of the Wrist. H. Colleu.—p. 226.

Spinal Anesthesia.—Riche says that he has applied general rachianesthesia *par la voie lombaire* in 60 cases out of a thousand in which he has used ordinary spinal anesthesia. The latter permits all operations under the diaphragm, but with a modified Jonnesco and Le Filliatre technic he performed operations on the neck, chest and arms. In 3 of the cases there was a tendency to partial narcosis, but most of the time the patients were able to converse with the nurse in charge. In 30 per cent. of the cases there was transient retching from twenty to thirty minutes after the injection. With his modified technic, the dose of procain (novocaine) was 1 cg. per 5 kg. of the body weight. The puncture is made in the first or second lumbar interspace, the patient lying on his side, withdrawing 10 or 15 c.c. of the spinal fluid. Then the anesthetic in an 8 per cent. solution is very slowly injected. He never uses epinephrin with it, but in the course of the injection he draws some of the spinal fluid up into the syringe several times to mix it well with the anesthetic. He declares that this technic can compete on an equal footing with general anesthesia and blocking the trunk nerve, but local anesthesia is preferable to all other technics when conditions permit it.

Traumatisms of the Wrist.—Colleu gives an illustrated description of the types of traumatism most often encountered, and expatiates on the frequent misinterpretation of the findings. This is due to lack of thorough clinical examination before applying radioscopy. The findings with the latter may otherwise prove misleading. The principal injuries encountered are fracture of the radius or of the scaphoid bone, partial rupture or tearing loose of some of the ligaments of the carpus, with or without dislocation of the bones of the carpus.

Progrès Médical, Paris

Jan. 25, 1919, **34**, No. 4

*Reconstructing Fractured Bone with Aid of Metal Clips. A. Aimes.—p. 29.
The Present Tendencies in Treatment of Abortion. P. Convert and H. Vignes.—p. 30.
Antiserum Treatment of Typhoid. L. Barras.—p. 32.

Feb. 1, 1919, **34**, No. 5

Treatment of Purulent Pleurisy by Siphonage, Progressive Sterilization and Secondary Suture. M. Barbier.—p. 39.
Differential Diagnosis Between Cancer and Tuberculosis of the Testicle. F. Cathelin.—p. 40.

Reconstruction of Fractured Bone.—Aimes discusses the drawbacks of different methods of osteosynthesis, and describes with illustrations a technic which he regards as superior to others. A light, narrow metal bar pierced with a strip of holes is laid along the bone, and over this are placed a row of narrow elastic clips, shaped like a capital C, with a small peg in the center which fits into one of the perforations in the bar. Each end of the clip is bent in and pointed to make a small claw which holds firm to the bone. Even in a case of submalleolar fracture the clips held the bones in perfect position for repair.

Correspondenz-Blatt für Schweizer Aerzte, Basel

April 19, 1919, **49**, No. 16

*Problems of Kinesitherapeutics. R. Scherb.—p. 513.
*"Turgidization" of the Placenta. E. Frey-Bolli.—p. 528.
Surgical Complications of Influenza. J. Dubs.—p. 538.
Specific Elimination of Certain Drugs Through the Lungs. J. Ries and M. Ries-Imchanitzky.—p. 543.

Mechanical Orthopedics.—Scherb discusses the drawbacks and limitations of present methods of mechanical training of impaired function, and enumerates a number of principles which have hitherto been neglected in this work. He is the director of a national institution for training crippled children, and his experience has enabled him to devise means to combat each special form of motor disturbance and to

utilize the centripetal stimulus, as he describes in detail with illustrations.

Injecting a Fluid into the Placenta to Aid in its Separation.—Injecting fluid through the umbilical vein into the placenta to render it turgid helps to detach it, as the placenta alters its shape as it becomes distended and heavier. As the placenta grows more and more turgid, this acts like an irritation on the inner wall of the uterus, and this responds with contractions which help to cast off the placenta. The latter also loses its elasticity which augments the irritation induced by its abnormally turgid condition. Frey-Bolli, who makes these statements, reports excellent results from this *Turgeszierung der Plazenta*. He makes a point of always wrapping the maternal stump of the umbilical cord in a cloth as soon as it is divided, to ensure asepsis in case he wishes to inject fluid into it later. In the last two or three years there were 3,201 deliveries at the maternity where he was assistant. In 53 of the cases there was retention of the placenta and hemorrhages. After injecting a fluid, the placenta was cast off spontaneously in 47 per cent. of the cases, and with light pressure in 41.5 per cent. In 7.5 per cent. the Credé procedure had to be applied under general anesthesia, and in only 2, that is, in 3.7 per cent., was manual delivery of the placenta required, and in no instance during the last two years. The outcome is better the earlier the fluid is injected, before the uterus has become exhausted. The nearly three years' experience has confirmed the efficacy and harmlessness of this measure. He injects from 300 to 500 c.c. of saline or plain boiled water. If no result follows, he lets this fluid run out and injects the same amount again, repetitions of the procedure proving successful sometimes when a single injection fails. This method of "turgidization" was taught by Astrubali of Rome as early as 1814, but seems to have been forgotten for a whole century until Gabaston revived it in 1914 (THE JOURNAL **62**:1443, 1914).

Schweizer Archiv f. Neurol. und Psychiatrie, Zurich

1919, **4**, No. 1

The Scientific Work of Paul Dubois. L. Schnyder.—p. 5.
Psychiatry and Biology. C. v. Monakow.—p. 13. Cont'n.
Embryology of Corpus Callosum. J. M. de Villaverde.—p. 45. Cont'n.
*Complications of Erythremia. F. Naville and P. Brütsch.—p. 88. In French.
Association of Erethistic Oligophrenias. P. Sarasin.—p. 104.
*Mental Finger Prints. E. Sapas.—p. 140.
*The Religious Trend in Epilepsy. W. Boven.—p. 153. In French.
*Experimental Traumatism of the Brain. O. L. Forel.—p. 170. In French.

The Cerebral and Spinal Cord Complications of Erythremia.—Naville and Brütsch describe the neurologic history in four cases of what they call Vaquez' disease, explaining it as a disease primarily of the bone marrow, manifested by exaggerated functioning. The symptoms from it are the result of the excessive amount of blood, its excessive viscosity, and the proportionally enormous numbers of red corpuscles. They suggest that an unrecognized exaggerated production of blood may be responsible for certain protracted cerebral disturbances of dubious explanation. Treatment for erythremia can be only symptomatic at present. Splenectomy has always been followed by hemorrhage or increased over-production of blood, so that this is absolutely contraindicated. The diet should be restricted to milk and vegetables, avoiding all iron-bearing foods, insisting on relative inanition, venesections followed by keeping in semi-darkness or in red light, sodium citrate, to reduce the viscosity of the blood and possibly exert a hemolytic action on the blood (Chauffard), and exposure of the spleen to the roentgen rays. The drugs that might be tried are the iodids, nitrites, salicylates, and spleen organotherapy or myelotoxic serums. The experiences related emphasize the importance of investigation of the blood in puzzling neurologic cases. The physician should never omit to examine the spleen and the bone marrow, by palpation and the blood count, when seeking the cause of disturbances in the circulation in the brain responsible for certain nervous affections. An unsuspected erythremia may be responsible for cortical miliary hemorrhages, or multiple arterial or venous thrombosis, or false tumors in the brain, with headache and choked disk, as well as other disturbances. In the four cases reported, only the analysis of the blood or the necropsy cleared up the diagnosis.

Mental Finger Prints.—Sapas quotes this heading from Hickson's annual reports of the Municipal Court of Chicago in which is described the diagnostic importance of drawings of geometrical figures in the estimation of feeblemindedness, and in the differential diagnosis of different forms of brain disease. The drawings are so characteristic that he does not hesitate to suggest that they form a kind of mental finger print. Sapas reports extensive experience in this line at the psychiatric clinic of the University of Zurich. He examined 186 persons, including sixty normal subjects, and reproduces a number of the drawings, especially the typical ones. They confirm Hickson's statements, showing that these drawings of geometrical figures reflect quite distinctly the personality of the subject being investigated and the characteristics of each form of mental disease. The reproductions thus serve a scientific and a diagnostic purpose.

Religious Trend in Epilepsy.—Boven refers to hallucinations dealing with religious subjects in epileptics. The details of forty-eight cases of epilepsy are tabulated; in 61 per cent. there was a known direct inheritance of an alcoholic taint. He ascribes the religious trend of the delirium to the fright experienced by the epileptic from his seizures, "these periodical rendez-vous with death," and his prayers to his Creator to be delivered from his disease.

Experimental Traumatism of the Brain.—Forel's experiments were undertaken to ascertain whether it might not be possible to induce general anesthesia by a mechanical shock to the brain, like the unconsciousness that follows a blow on the skull. Negative results were obtained with an apparatus which bumped the skull repeatedly, but slightly more promising results were obtained with an apparatus permitting centrifugal action. Two human volunteers and dogs were used for the experiments.

Policlinico, Rome

April 27, 1919, **26**, No. 17

*The Blood Groups. P. Cesetti.—p. 513.
Modern Treatment of Syphilis. P. De Favento.—p. 515.
Smallpox and Vaccination. A. Filippini.—p. 523.
Gas Gangrene and Phlegmons. P. Gilberti.—p. 526.

The Blood Groups.—Cesetti compares the recent publications on means to estimate the suitability of a given blood for transfusion.

Brazil-Medico, Rio de Janeiro

March 15, 1919, **33**, No. 11

Neosporidia Parasites of Brazil Fishes. A. M. da Cunha and O. da Fonseca.—p. 81.
*Madura Mycosis in Brazil. P. da Silva.—p. 81.
*Treatment of Urethral Vascular Caruncle. C. de Rezende.—p. 84.

Fungus of Madura Mycosis.—Da Silva describes what he thinks are two new species of fungus, each cultivated at Bahia from a case of mycetoma. He has named one the *Discomyces bahiensis* and the other, the *Madurella ramiroi*. He was unable to reproduce the disease in animals, even when inoculated with the fungus in the paw by means of a thorn, to approximate clinical conditions.

Treatment of Urethral Vascular Caruncle.—De Rezende comments on the intense and radiating pains liable to be caused by this apparently insignificant lesion. He has encountered five cases since early in 1915. One of the women shrank with such dread from operative treatment that she had borne the pain for twelve years rather than have an operation done. He therefore treated the painful papilloma with chromic acid after local anesthesia of the urethra, destroying the tumor by puncturing it repeatedly with a probe dipped in deliquescent chromic acid. When the tumor had been destroyed, he cauterized in the same way the site and then neutralized with sodium bicarbonate any excess of the chromic acid left. There was no hemorrhage and the whole procedure occurred without the slightest pain, and conditions have been permanently normal during the two years since. In the one case in which he destroyed the

vascular caruncle with the actual cautery, the woman suffered for several days afterward from pains in the region, evidently from the action of the heat on the surrounding tissues.

Crónica Médica, Lima

March, 1919, **36**, No. 669

*Serodiagnosis of Typhus. R. E. Ribeyro.—p. 75.
*Cesarean Section in Peru. J. Romero L.—p. 79.
*Quantitative Test for Urea. M. A. Velasquez.—p. 81.
*Treatment of Rebellious Amebiasis. C. A. Saenz.—p. 84.

Serodiagnosis of Typhus.—Ribeyro has been applying at Lima the agglutination test with the strain of proteus X 19, which Weil and Felix in 1916 isolated from the urine of typhus patients. This proteus does not seem to be responsible for the typhus, but only typhus serum agglutinates it in these tests. This experience was confirmed in Ribeyro's two cases, and he found the response pronounced when applied even for a macroscopic reaction. For this he added one drop of the serum to a test tube containing forty-nine drops of a killed culture. Agglutination thus at 1:50 seems to occur only with typhus.

Cesarean Section in Peru.—Romero remarks that the ancient Inca pottery has thrown much light on the manners and customs of prehistoric Peru, but no obstetric scenes are depicted except one vase portraying a normal delivery. In 1781 the viceroy of Peru published a decree ordering cesarean section when the death of the pregnant woman near term seemed imminent or had just occurred, but there is no record of the operation having been done until 1861.

Quantitative Determination of Urea in Urine.—Velasquez gives the details of Golse's recently published method and states that the findings constantly paralleled those of the other and more complicated methods in vogue in his experience. It is based on the excess of hypobromite left after decomposition of the urea. This excess is evaluated by the iodin liberated from potassium iodid by the excess of hypobromite.

Arsenic in Amebiasis.—Saenz describes three cases of amebiasis refractory to emetin in which the cure was soon complete under neoarsphenamin. The dysentery had been chronic for from one to four years, but it yielded promptly to the neoarsphenamin, although the form of the disease differed in each—hepatitis, enteritis, myositis—and the ameba was in the encysted form. The first dose, he says, should not be over 0.15 gm. increasing to 0.30 gm. if this is well borne, with intervals of four or five days, until complete cure.

Prensa Médica Argentina, Buenos Aires

March 20, 1919, **5**, No. 29

*Bronchopathies from Inherited Syphilis. M. R. Castex and N. Romano.—p. 285. Conclusion.
Case of Sclerodermia in Patches. P. M. Barlaro.—p. 287.
Technic for Heliotherapy with Pulmonary Tuberculosis. A. Cetrángolo.—p. 288.

Bronchial Disease with Tardy Inherited Syphilis.—Castex and Romano discuss the bronchopathies liable to develop late with inherited syphilis, and describe seven typical cases. Bronchiectasia in children and young adults is usually due to inherited syphilis, and secondary tuberculosis frequently becomes implanted on it. Asthma in children and youths as well as asthmatic bronchitis may be a manifestation of inherited syphilis. The diagnosis should be made without delay so that specific treatment can arrest the mischief before irreparable damage has been done. A lack of normal balance in the endocrine glands was apparent in all these patients. Two were children, the others were young adults, and in each chronic bronchial asthma or bronchitis with asthma had developed between the third and twelfth years. The asthma occurred exclusively or predominantly at night. At all times there was some difficulty in breathing, and the morning cough and expectoration were constant. The pleura was involved in most and also various viscera, with evidences of pluriglandular disturbances, especially thyroid and suprarenal insufficiency. Under mercury, all were materially improved. Iodid and arsenic were useful adjuvants in some cases. The nocturnal asthma or the exacerbations at night suggest a syphilitic origin. In one family the father and two children showed signs of inherited syphilis, and the whole family had asthma.

Revista Española de Medicina y Cirugía, Madrid

March, 1919, **2**, No. 9

*Radial Paralysis. L. Cardenal.—p. 121.
The Medulla Oblongata. J. Vilató.—p. 132.
Practical Points in Coprology. F. F. Martinez.—p. 141.

Cure of Radial Paralysis.—In Cardenal's case the radial paralysis developing after a stab wound of the upper arm severing the radial nerve was cured by resection of the cicatricial tissue and suture of the stumps of the nerve. In order to bring the stumps together the arm was shortened by resecting 4 cm. of the shaft of the humerus. This permitted end-to-end suture of the nerve, and by the end of two years its functional use had been entirely regained. The shortening of the arm scarcely interferes at all with its use.

Semana Médica, Buenos Aires

March 20, 1919, **26**, No. 12

*Surgical Correction of Deformed Noses. E. A. Rezaval.—p. 281.
Advantages of Thoracentesis for Serofibrinous Pleurisy. A. A. Oneto.—p. 290.
*Anise Poisoning. T. A. Tonina.—p. 294.
Scientific Pacifism. W. Tello.—p. 299.

Correction of Deformed Noses.—Rezaval's twenty-two illustrations show the instruments, technic and successful results of his operations on different types of disfiguring noses.

Anise Poisoning.—In connection with the epidemic of poisoning from false anise, Tonina has been studying the anise plant and here gives an illustrated description of its chief varieties.

Norsk Magazin for Lægevidenskaben, Christiania

April, 1919, **80**, No. 4

*Detachment of Retina during Pregnancy. I. Schiøtz.—p. 321.
*Fractures of Long Bones. K. Haugseth.—p. 334.
*Juvenile Deforming Arthritis. K. Nicolaysen.—p. 353.
*Uremia with Kidney Disease. O. Scheel.—p. 363.
*Addison's Disease. K. Motzfeldt.—p. 371.

Detachment of Retina During Pregnancy.—Schiøtz reports three cases of detachment of the retina during pregnancy nephritis. Each patient was a primipara 17, 29 or 35 years old, all with albuminuria and eclampsia, but without pronounced edema. They were all emmetrope, and detachment of the retina occurred after several convulsions, bilateral detachment in the older woman. In this case it occurred at the seventh month and persisted for a month after the miscarriage, but then the retina returned to its place, with vision of 6/36 and 6/6. There was evidently pregnancy nephritis in this case, and albuminuria returned at a second pregnancy five years later, but it disappeared after spontaneous abortion at the seventh month. Vision was not affected this time. In the second patient there was also retinitis and detachment of the retina which persisted for two weeks until delivery (seventh month); then the retina returned to place at once and in two days there was no further trace of the detachment. The youngest patient developed the eclampsia after delivery at term, and the detachment of the retina occurred without any signs of retinitis, only papillitis. The detachment of the retina has persisted unmodified in this case during the year since to date.

In a fourth case the detachment of the retina occurred during the fourth pregnancy of a myopic woman, otherwise normal. The eye affected became totally blind, and in the other eye detachment of the retina occurred likewise just before term in the fifth pregnancy. There was no trace of albumin or sugar in the urine. A Müller scleral excision was done on the right eye, just before delivery, and within a week the retina had returned to place, but vision was only 2/36, and after a few months this declined. Schiøtz knows of only four similar cases on record of detachment of the retina in pregnant women without a trace of albuminuria; three of the total five were strongly myopic. The detachment

persisted unmodified in all but one case. In two of the other cases, the retina in the other eye became detached at the fourth or sixth month of a later pregnancy. But artificial delivery at once in both cases was followed by the restoration to place of the retina, with recovery of reading vision. All these cases seem to teach that the longer the interval between the detachment of the retina and the delivery, the smaller the chance of restoration of the retina to place. Consequently it is extremely important to interrupt the pregnancy at once.

Fracture of the Long Bones.—Haugseth analyzes the present findings in 145 cases of fractures of the legs treated at the Rikshospital between 1907 and 1917, mostly industrial accidents.

Juvenile Deforming Arthritis.—In Nicolaysen's case the lad of 17 had been operated on a year before for arthritis deformans and subluxation of the femur head. The limping had been much improved by the intervention, and there was no further pain. After sudden death ascribed to the status lymphaticus and hypertrophied heart, the hip joint showed changes which rendered it probable that typical Calvé-Perthes' disease had preceded the juvenile deforming arthritis. The Calvé-Perthes' disease had induced a certain deformity in the joint, the head was egg-shaped, the neck short and broad, and this had modified static conditions in the joint and brought on the arthritis as the bone became fully ossified at puberty.

Retention of Urea with Kidney Disease.—Scheel reviews 25 cases of acute hemorrhagic or chronic nephritis, terminating in recovery or material improvement. There was retention of urea in both blood and spinal fluid, but it was never over 1.94 per thousand, and it displayed a downward tendency. In another group of 19 cases the urea content was over 2 per thousand, and the cases all terminated unfavorably in a few months or weeks. With over 4 per thousand, death is imminent within a few days. At the same time, low urea content is not inevitably a sign of good prognosis, as even with normal content, uremia may develop within a few months, with content up to 1 per thousand, within a few weeks. The highest retention was with chronic glomerular nephritis and true contracted kidney. The retention of urea is independent of the tendency to dropsy. There is usually a high blood pressure with retention of urea, but they are independent of each other and either may occur alone. Headache, anorexia and vomiting in the course of the chronic nephritis should attract attention, but they are less reliable as elements for the prognosis than the objective retention of urea.

His experience suggests further that eclampsia with and without uremia may be two separate entities. Bruun of Stockholm recently called attention to the difference between the residual nitrogen in the spinal fluid and in the blood in these two groups. The difference may amount to 16 mg. per 100 c.c. blood serum, in the normal, but the difference is greater with nephritis, from 17.5 to 32.2. In 6 patients with true uremia and convulsions, the difference ranged from 43 to 114. In 5 of Scheel's cases the retention of over 2 per thousand urea was the result of some mechanical obstacle, congenital valve formation in the ureter, cancer of the prostate, urethral stenosis or other cause. The practical importance of this group lies mainly in the imperative necessity for reducing the intake of nitrogen in the diet, especially as a preliminary to an operation on the prostate. The amount of urea retained on a nitrogen-poor diet and on a milk diet should be studied for purposes of comparison. Scheel found in a series of cases that the nitrogen retention became much less on changing from a milk diet to an albumin-poor diet, the figure dropping from 90 to 26 mg.; from 141 to 32, etc., per 100 c.c. blood serum. The urea content of the blood serum, occasionally determined, is a guide for regulation of the diet, showing when it is necessary to restrict the intake of nitrogen. Over long periods it is impossible to get along with less than 50 to 60 gm. albumin per day, but for a short time much less than this will suffice.

Addison's Disease.—Motzfeldt declares that bronzing is by no means an indispensable element in the picture of Addison's disease. He describes the case of a woman of 43 who had had spondylitis twenty years before and had been treated at various times for pains in the abdomen. Gastric ulcer and stenosis in the bowel had been suspected, and she had lost much in weight. Suddenly she developed headache, vomiting and diarrhea with extreme asthenia and weakness. Slight bronzing of the back of the hands was noticed; the pulse was fast and small, often scarcely perceptible. The temperature was subfebrile and the tolerance for sugar, unusually low. Epinephrin by the mouth produced no effect, but after subcutaneous injection there was pronounced transient improvement. She died within two months, and both suprarenals were found almost entirely destroyed by tuberculous processes. He compares this case with those on record and reviews the literature. In treatment it might be better to use an extract of the suprarenal cortex intsead of epinephrin, as a deficiency of epinephrin does not seem to be the cause of the low pressure. Our positive knowledge of Addison's disease is still meager, especially its pathogenesis. Experiments on animals have only added to the confusion, as the blood pressure does not drop for days after removal of the suprarenals. When the pressure does drop, it cannot be modified even by continuous intravenous infusion of epinephrin.

Ugeskrift for Læger, Copenhagen

April 3, 1919, 81, No. 14

*Operations on the Chest for Pulmonary Tuberculosis. C. Saugman.—p. 585.

Thoracoplastic Operations for Pulmonary Tuberculosis.—Saugman reviews the experiences in this line at the Vejlefjord Sanatorium, a total of twenty-six operations in the last two or three years. The indications for the operation were about the same as for artificial pneumothorax; in fact, this had been attempted in every case beforehand. Local anesthesia is very important, and it is astonishing to witness the patient's indifference to the extensive operation. One patient began to converse on some trivial subject in the midst of the operation. Large amounts of the anesthetic are required to block the nerves, and one girl of 18, in good condition, died soon after the operation. It had been hastened on account of her collapse, so that the resection of five ribs and the suturing took only fourteen minutes; 190 c.c. of a 0.5 solution of procain (novocain) had been used in this case, after a preliminary injection of 0.015 morphin an hour before the operation. She had also been given a little sedative the evening before. Necropsy failed to explain the cause of death. In another case, signs of intolerance were evident from the first, and the attempt to use local anesthesia was abandoned.

The local anesthesia does away with the danger of aspiration of secretions and the whole procedure is much easier for the patient. In one case an abscess in the lung was cleared out after resection of three ribs, the patient sitting erect in a chair all the time. The total length of the ribs removed ranged from 80.5 to 172 cm., with 134 cm. as the average. There did not seem to be any advantage from including the eleventh rib in the resection. The pains after the operation seemed to be less severe in the cases in which the ribs had been resected subperiosteally. For this reason, operating in two sittings has its advantages. The after-care is extremely important, to ward off aspiration of mucus into the sound lung, and to give stimulants for the heart in case it shows signs of weakening.

The thorax sank in after resection of the ribs, so that the chest on that side was only a half or third of the size of the other half of the chest, as was determined at necropsy in one case with death seventeen days after the operation. Twelve of eighteen patients apparently lost the tubercle bacilli completely from the sputum in the course of a few months. In two or three cases recurring hemoptysis was what called for the operation, but in another case fatal hemoptysis occurred the seventeenth day after the operation. Possibly in this case the reduced ability to cough up the blood may have contributed to the fatal outcome, as the hemorrhage had been small. In the other case, pulmonary embolism the second day was responsible.